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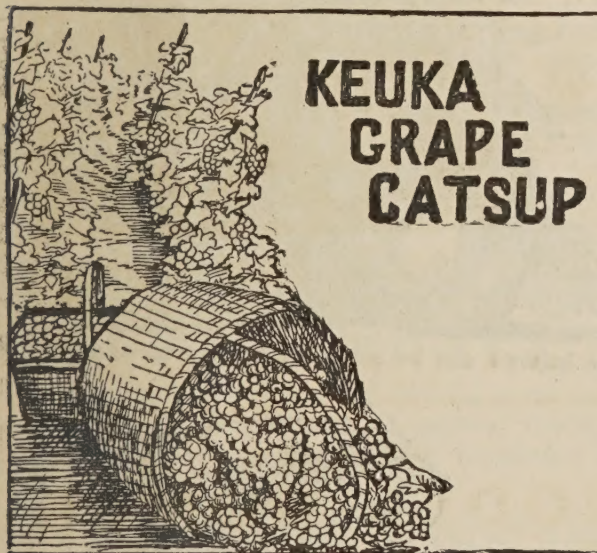
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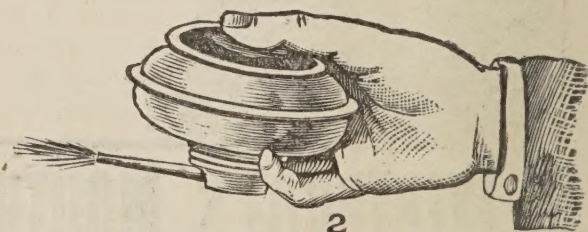
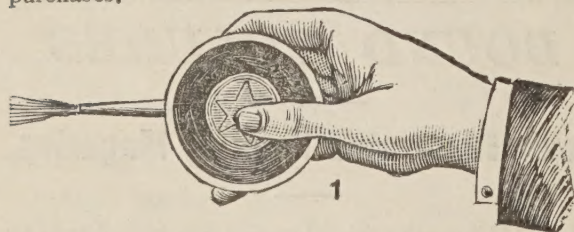
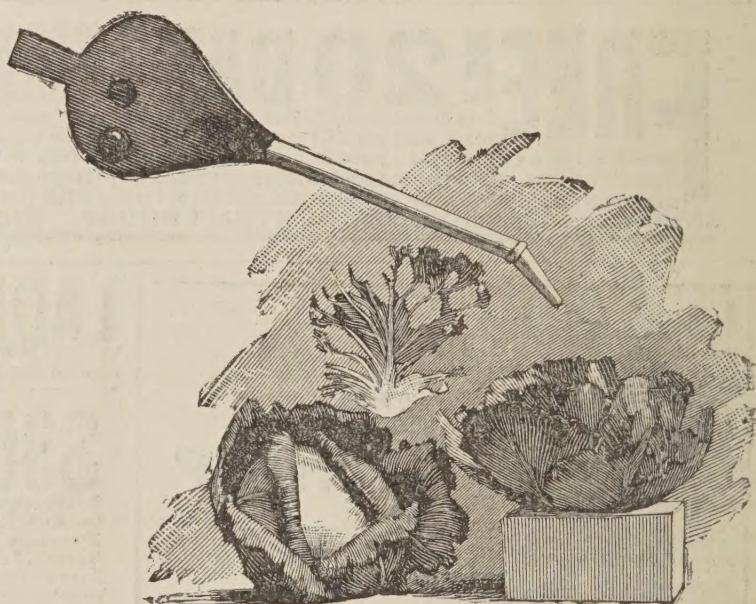
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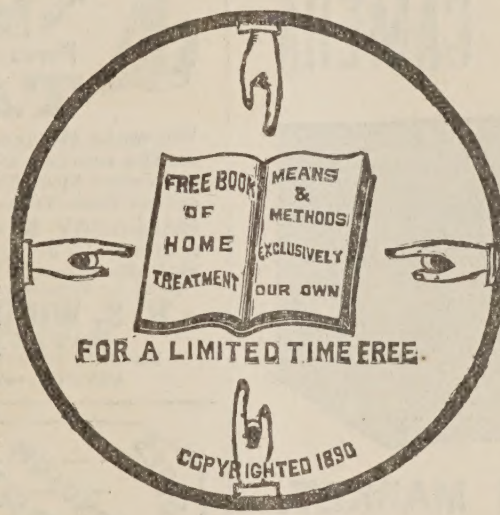
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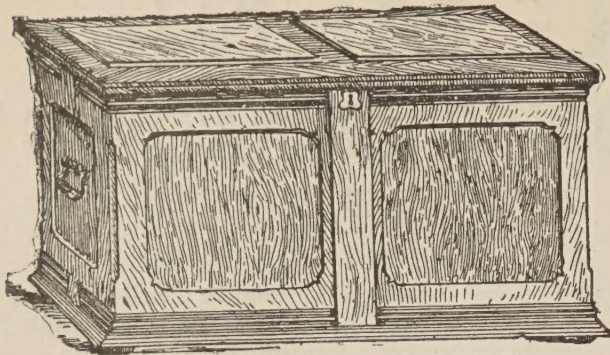
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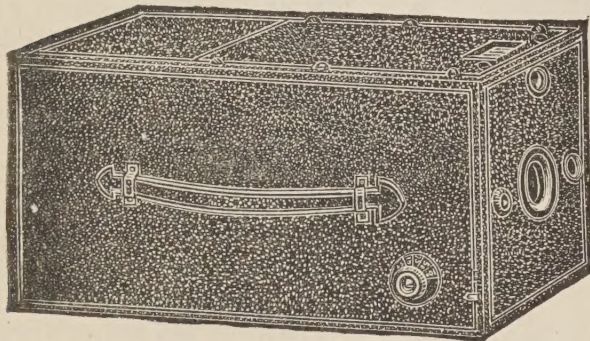


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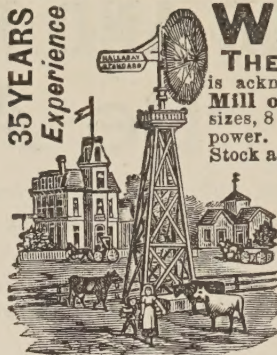
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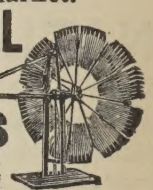


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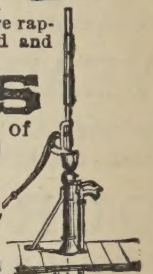


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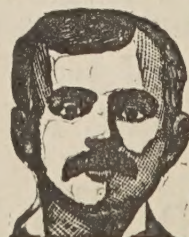
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LATHYRUS SPLENDENS.



JULY, 1891.

THE FIRST six months of eighteen hundred ninety-one passes into history, and the chronicles of these months show in an unusual manner the precarious character of horticulture, in some of its branches at least, as pursued in this country. The past year and, so far, the present one, form an eventful and trying term for this industry. Farm, garden and orchard crops last year had a hard struggle with weather conditions, insects and fungous diseases, and with courageous hearts the work was taken up this season with the hope of more propitious skies; a hope which, it seems, is not to be realized. If we look abroad we find that in some parts of Europe the inclemency of the weather is equally as great as with us, and that farmers and gardeners there are engaged in as great a struggle as are ours; and, no doubt, if we were in wide correspondence on this particular subject we should find that, with minor exceptions, the weather conditions of the whole globe are at the present time unfavorable to horticultural

interests. The meteorological conditions of the earth dependent upon, and governed by, the central force of its system, the sun, feels and responds to every change that occurs in that great source of light, heat, electricity, vitality. Accurate observations made from day to day by different observers show that at the present time the sun is undergoing great and rapid changes, and that to these changes are due the great fluctuations of the weather on our planet. In a word, then, this is the explanation of the extremes of temperature and humidity which we are now experiencing. With a superficial view some suppose that the unfavorable weather is due to the deforesting of our lands, but, great as is this modifying agency, it cannot be shown to be the factor in the world-wide climatic disturbances. The seasons of great solar activity are periodical, but the periods are variable and cannot be stated with precision; the time from one season of great solar disturbance to another may be less than

eight and more than fourteen years; in the intervals we have our best agricultural seasons. In the seasons of extremes, such as the present, we have forcibly shown to us the importance of particular localities for the culture of special crops. In the northern regions of peach cultivation the advantage of high ground, and especially a northern hillside, is particularly indicated. There greater immunity from frost exists, both on account of the trees starting later in the spring, and because the colder air settling to low grounds a layer of that which is warmer lies above it. Great injury has been inflicted upon the vineyards of the Northern States by the frosts of May. Many vineyards where the new growth was from six inches to a foot in length have had all the foliage destroyed, leaving them in appearance as if burnt over with fire. In this State the greatest damage was done on the twenty-sixth of May. In Ohio the damage in this way has been very great. Those vineyards which escaped the visitation are mostly located on high grounds and close to considerable bodies of water. The value and importance of such locations are distinctly seen. Cherries, strawberries and raspberries have been injured by the same May frosts, and as a result the crops of these fruits will be much lighter than the profusion of bloom promised. Extremely dry weather prevailed over most of the northern part of the country through the month of May and into June, and newly planted trees and shrubs have suffered for moisture, many of them perishing. Mulching is the best means of providing against such an emergency and it would be well to make a practice of covering the soil over the roots of young trees transplanted in the spring with some coarse litter, saw-dust or evergreen boughs, until their growth is assured. At present, so far as has been learned, there will be a fair crop of plums, few pears, some early apples, and but few of late keeping varieties. Apple growers are greatly discouraged, and some are thinking of uprooting their orchards. Such a course, we think, would be afterwards regretted. There is no reason whatever to suppose that the seasons will always be adverse to fruit interests, and there is great probability that we are now about to enter upon a series of years of abun-

dant fruitfulness, for those at least who intelligently care for their trees and grounds. The Eastern States, New York, Pennsylvania, Ohio and Michigan have for many years produced fine crops of apples and at a fair profit, and, if we can fairly judge the facts of the case, there are not sufficient reasons to adopt an extreme course at this time. There may be individual cases of orchardists who have made a specialty of apple-growing and are wholly or in a large part dependent upon it for support, who are, consequently, now in financial straits from the loss of successive crops. Such cases are sad ones, and the lesson to be learned from them is that it is dangerous in a business like fruit-growing to depend upon a single crop. Even the average farm crops are often poor and sometimes failures. The oat crop in this region was almost a total failure last year by reason of a rust, and this year it will be very light on account of dry weather, practically two years of failure of one of the most reliable of annual crops. It is improbable that large orchards will be planted as they have been in the past, and the business will be extended only as experience shall show that it is reasonably safe. Laying aside the consideration of unfruitful seasons caused by unfavorable weather, the apple orchardist must be vigilant, intelligent and energetic in the care of his trees, as never before, on account of the numerous insects and fungi that now prevail. These pests are now so numerous that it is safe to say that a large share of the acreage in apple orchards, in the hands of those who conduct operations in the old ways, will never again produce an average crop of good fruit. High prices for apples will probably rule for many years to come. Our advice is to take the best care of the trees, do not depend upon them for a living nor to pay off a mortgage, but regard them as an investment which will in a series of years pay a good dividend.

The history of fruit-growing in this country shows, with scarcely an exception, that every branch of it that has been taken up has been greatly extended until reverses of some kind or another have befallen it; then it is partially neglected, and is only continued by those best fitted to conduct it. Different localities, one after another, repeat the fact.

YUCCA WHIPPLEI.

The persistent reader of florists' catalogues will sometimes find the name that heads this article at the tail end of the short list of yuccas; possibly he may wonder "what kind of" a plant it is. It received its name from the zealous and talented lieutenant A. W. WHIPPLE who in 1853-4 crossed the plains at the head of an exploring expedition of the United States government. In the early summer one may see the Indians of our valley with bundles of some green vegetable sub-

Mesqual will taste just as sweet to the uninterested savage. Still earlier in the season you may see little bands of Indians on foot, and mounted on their wretched mustangs, bound for the hills; they are going after mesqual too. They will bring back with them many fibrous, spherical, sticky and dirty looking masses about as large as a cocoanut, fiber and all. If you have courage enough to taste it you will find it quite sweet, and the Indian will tell you it is "mesqual" and "*moy dulce*."

When the mesqual is suitable for cooking they gather great quantities of it, at some convenient spot near their camp. They then make a slight depression in the soil in which a fire is built and maintained for some time, until the ground, and a quantity of stones also, which have been thrown in, become quite hot. When this primitive oven is at the right temperature the mesqual, stripped of its leaves, is thrown in, the embers having been first raked to one side. When a thick layer of mesqual has been placed in the oven, the hot stones, embers, ashes, soil and green grass is thrown over the whole pile and a fire kept burning on top of it; this is kept going till the chief cook deems the mesqual to be thoroughly cooked, when the pile is pulled to pieces and the contents allowed to cool. In taste



YUCCA WHIPPLEI.

stance which has been formed into balls of two to four inches in diameter. This substance they eat green, by chewing and extracting the sweet juice and ejecting the white fibrous "cud" left after the operation, or, to heighten the relish, they roast it over the coals, sometimes merely warming it through. They will tell you this is mesqual (*mez-kal*). A botanist would tell you that it is Yucca Whipplei. What's in a name after all?

it has a faint resemblance to a baked sweet apple and is about of the same consistency. The whole mass is a mixture of this sweet, soft pulp and coarse, white fibers, much like manilla rope yarn. Care must be taken not to eat much of it, for it has a medicinal effect similar to castor oil, though the Indians do not seem to mind this at all. I am told that the Indians on the desert north of us knead up the fresh-baked mesqual into cakes, and

these are dried in the sun for future use. The *Agave deserti* is also called mesqual and is cooked the same way, and I have good reason to believe several other sorts of agave. In fact I believe that *Yucca Whipplei* is the only yucca that is used in this manner. Mesqual seems to be the general name for all plants that are prepared as I have stated, hence Whipple's yucca also becomes mesqual, because eatable in this manner.

Should you wander along the sand washes and slopes of the higher parts of our valley you cannot help noticing a curious looking plant growing there in considerable numbers. From an upright spike, solid and hard, growing directly out of the ground, radiate in every direction long green leaves with sharp spikes at the ends—a hemisphere of rigid, bristling leaves. As the plant approaches maturity, and prepares to bloom, the base broadens and thickens till it has quite a bulbous appearance; when in this condition it is considered eatable by the Indians. Presently the central spike of close-clustering leaves grows taller and thicker, and from the center emerges the

flower stalk, very tender and white, with the close-clustered buds so minute as to be scarcely recognizable; at this period of its growth it looks very much like a huge stalk of asparagus. The growth of this flower-spike is exceedingly rapid. The faster it grows the faster the flower-buds develop, but it is not till the stalk is some five or six feet high that it begins to branch out from the central stem in every direction, and subdivides again into many smaller stems, each terminating in a perfect flower. When the plant is in full bloom there is a spike of creamy white flowers two feet across and tapering upward three or four feet to the top where the delicate green buds are not yet open. The flowers are some two inches across, generally of a delicate cream color, or pure white, not infrequently with a line of green or purple down the center of each petal; instances are not rare where the whole flower is of a rich purple color. In texture the flower is thick and waxy looking. This yucca has the peculiarity of dying as soon as it has flowered, like the agaves.

W. F. PARISH, *San Bernardino, Cal.*

THE CRESTED PROVENCE ROSE.

I do not know how many of the readers of these lines may have seen this beautiful rose. That it has not become common I am well assured, since no one who has visited our home for the first time has ever seen its like before, nor have I been able to discover it among the list usually catalogued by florists. It was one of the rarities twenty or twenty-five years ago when it was purchased of a Cincinnati florist and brought to our home by a friend who loved the beautiful. Since that time not a June with its wealth of roses has come round but this rare Moss Rose, if we may class it among the Moss Roses, has gratified us with its bloom. Belonging to that class of roses so entirely hardy as to need no protection whatever, yet it yields its bloom but in June, when we must needs make the most of it while in season.

The rose itself when wide open is simply an old-fashioned pink Cabbage Rose, large and full, and delightfully fragrant. But it is the bud, or rather the clusters

of buds, of which I would speak. They are not at all like those of the ordinary Moss Rose. Rather short and heavy, they are enclosed within their capping of tufted leaves, or as their name implies, crested, with a covering, not moss-like at all, but composed of whole layers of tiny leaflets, each distinct in itself, compacted, clustered and tapered into a thing so beautiful that but to see it is to admire. Out of this crested green covering the lovely pink of the flowers peeps, now vivid, now delicate in shading, making the loveliest buds among all the June bloomers. I have had many Moss Roses but never any like this one, nor one so universally admired. Those with whom I have shared my treasure, for it is greatly given to sprouting, have ever prized it as I have, and this old, yet ever new, and never common, rose has made itself quite a name and reputation in our immediate neighborhood. While I think it to be not generally known, as the admiration of strangers seeing it for the first time has led

me to believe, my few words of description have yet failed to do it justice, and I would that all lovers of beautiful roses might see and enjoy it for themselves or come to own it as they have opportunity. I have ceased to cultivate many of the rare kinds of old June roses, not liking them the less, but devoting my time and

attention to the culture of the really *perpetual* bloomers in shape of the more hardy Monthly Roses, believing them to repay better the care devoted to them. But my Crested Provence Rose remains a fixture always, as something I cannot afford to do without, even though I have its beauty only "in rare June days." H. K.

OLEA FRAGRANS.

The fragrant olive, *Olea fragrans*, is an evergreen greenhouse plant belonging to the natural order Oleaceæ, and is a native of China, whence it was introduced in 1771. It may be described as an evergreen greenhouse shrub, growing from four to ten feet in height, having lance oblong, bright green, serrate leaves, and small, white, highly fragrant flowers, which are produced in axillary corymbs. It is said that the plant is greatly esteemed in China on account of its highly odoriferous blossoms, and the leaves are much used to adulterate and flavor teas. When well grown the fragrant olive is a very pretty plant for the decoration of the greenhouse and window garden, as it can be easily grown, and is free from the numerous insect pests that prove to be so troublesome to plants in general.

To grow this *Olea* to perfection it should be given a soil composed of two-thirds

turfy loam, and one-third well decayed manure. In potting see that the drainage is perfect. Repot whenever the plants require it, or else give liquid manure freely whenever the pots become well filled with roots. During the winter season the plants should be given, if at all possible, a light, sunny situation, and an average temperature of 50 degrees. For the summer they should be planted out about May 10th on a deep, well enriched border, and during seasons of drought well supplied with water; if they can be slightly mulched it will be decidedly beneficial. They should be taken up and potted about the end of September, or just before cold weather sets in. Propagation is effected by cuttings of the well ripened wood, placed in sand and given gentle bottom heat, and if the young plants are well cared for nice specimens will soon be obtained.

CHAS. E. PARNELL, *Floral Park, N. Y.*

THE PITCHER PLANT OR SIDE-SADDLE FLOWER.

One of the anomalies of nature is the little group of insectivorous plants,—exceptions to the general rule that animals alone digest and assimilate animal or vegetable tissue. *Sarracenia* is a most interesting genus of plants, and one species of it, *S. purpurea*, is familiar to many of us under the various names of Pitcher Plant, Side-Saddle Flower, Huntsman's Cup, etc. Down in northwestern Indiana, some thirty miles away, I found hundreds of the plants. Deep in a tamarack swamp they were clustered about the foot of each tree and thickly covered the carpet of sphagnum moss for yards around. It was late in May and the blooming season was at its height, and from every plant rose several of the graceful flower-stalks, varying from a foot to a foot and a half

high, purplish-green, and each bearing one of the large, nodding flowers. From the tangled roots, buried just under the moss, spring the numerous, dark green and mottled insect-entrapping leaves, all clustered, rosette-like, about the central flower-stalk, and often numbering fifty to a plant. The part of each leaf which answers to the petiole is greatly developed, tapering pitcher-shaped, and along its upper face bears a broad, erect wing (fig. 2, D). Surmounting the hollowed petiole, and forming the spout of the pitcher, is the "lip" (fig. 2, C), the reduced and modified blade of the leaf. Its inner surface, as well as the lower part of the pitcher (fig. 2, A), is covered with long, stiff hairs, projecting downward and inward. The upper portion (fig. 2, B) of the inner sur-

face of the pitcher is smoother and more slippery than glass, and of such chemical character that the feet of insects will not stick to it. Not infrequently there are nectar-secreting glands along the pitcher's wing and at its mouth. The dews, rain, and frequent washing up of the swamp water by the wind, all serve to keep the pitcher at least half full of water. Insects are enticed into the leaves either by the honey-glands, or by thirst, or enter it

the decomposition of the insect bodies is markedly more rapid than in pure water strongly supports the belief that some digestive element is secreted, for it is well known that the presence of a quantity much too small for detection by most chemical tests would yet be sufficient to cause very decided digestive action. The nutritious solution is absorbed and assimilated by the leaf and the plant thrives upon this animal diet, great numbers of



FIGURE 1. *SARRACENIA PURPUREA*, ABOUT $\frac{1}{3}$ NATURAL SIZE.

in search of shelter. The hairs on the lip readily permit the insect to crawl downward, but on its attempting to crawl up again, confront it like a phalanx of spears and effectually force it back. Once within the pitcher its feet cannot cling to the slippery surface and down it inevitably goes to a watery grave, the hairs in the lower part forcing it farther toward the bottom. Whether or not a digestive fluid is secreted by the pitcher, and which mingles with the water, has been a question among botanists. No chemical test has ever positively shown it, but the fact that

decomposing insects usually being found in the bottom of each pitcher.

Scarcely less remarkable is the flower. At its base are three small, dull purple bracts, as seen in figure 1, and at G in figure 3. Alternating with the five broad, leathery, purplish sepals (fig. 3, A), are the five fiddle-shaped petals B, each curved back upon itself at the middle, E. The claw, F (*i. e.* the small end of the fiddle) of the petal is yellow striped with purple, and the broad blade, D, is purple and curves over the middle of the flower. The ovary is large and globular, and from its

center rises the short, stout style, J, which suddenly expands at the apex into a broad, thin, five-angled organ, precisely like an umbrella, C, having five prominent rays radiating from the indented center to the angles. The angles alternate with the petals and each is cleft and bears on its inner side a small, hooked body—a stigma, I, on which the pollen grains germinate. The stout, with fixed horizontal anthers, and, with the ovary and petal-claws, are en-



FIGURE 2. PITCHER-SHAPED LEAF.

tirely covered by the inverted umbrella, into which, as the flower hangs downward, the pollen falls.

An insect within the flower is dusted with pollen by the stamens above and brushes it up from the umbrella below. In crawling into another flower it enters

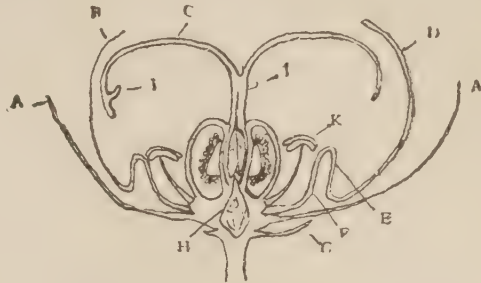


FIGURE 3. VERTICAL SECTION OF FLOWER REDUCED. between the claw of a petal and one of the umbrella angles, and so brushes some of the pollen off on one of the little hooked stigmas. Thus we have a flower marvelously specialized for cross-fertilization by insect agency, and for the protection of its reproductive organs against dew and rain.

HENRY L. CLARKE.

AMONG THE RANCHERS.

III.

The warm days of summer came, full from dawn to dusk with tropic color, the seas of ripening wheat rolled to the very door-step, and Mrs. Bailey found heads of golden grain thrusting themselves through the garden fence, and mingling with her roses. From the window she could look across the plain, and watch the sea-breeze surge across the leagues upon leagues of wheat that piled the valley. But John Bailey said there was too much wheat in the country, and no war or famine anywhere; they should not make their fortunes that season. It was all very pretty, he admitted, but he was not going to rave over it.

"Shall we have country health, and freedom, and our living, and a garden, and all this wealth of beauty and not be happy over it?" asked his wife gravely, with brightening eyes. "We must not wish for a war anywhere; and cheap wheat means cheap bread for the poor. If we make a little, let us be content."

Mr. Bailey smiled, "Yes, I think you are right," and made no further complaint.

As for the garden, the days of irrigation and much water-carrying, so gloomily predicted by Mr. Bailey, had come at last. The hot weather did not crack and bake the surface of the soil, so well had it been mulched and sanded, but the plants certainly began to droop. Mrs. Bailey had been sprinkling with laborious exactitude every night, and yet there was evidently a falling off from the garden's usual standard of luxuriance.

"We must stop this sprinkling," said Mr. Bailey, "and wet the garden thoroughly."

They made some water-boxes leading from the well to the garden, and the next afternoon Mr. Bailey pumped while his wife using a hoe, made narrow irrigation channels, until every inch of the surface of the garden was thoroughly saturated. They had many minor adventures during the progress of this operation. For instance, he nearly fell into the well, by reason of his over-anxiety to keep his wife busy; and she plastered her shoes with mud in her desire to get as much work out of him as possible. When the

garden was irrigated, a mulching of grass was put on the surface. A few days later it was raked into piles, the soil stirred and the mulching spread again. The result of this operation in that warm, dry atmosphere was marvelous. The plants grew like weeds; the roses gave a quadruple supply of buds; and several weeks passed before there was any need of another watering. In August all the plants grown from seed were in full flower, and the garden was a blaze of color from fence to fence. Twenty times a day Mrs. Bailey visited it; and she put vases of fresh flowers in every room of the house.

"John," she said one night as they were watering the garden, "do you suppose that anything could happen to my pansies, or roses? Do you see any dangerous contingency worth mentioning—anything that an insurance man would make a black mark against?"

"Well no, not at present. Pigs are enemies, but they are in a tight pen; gophers are not plenty, and we are on the lookout for them. Really, I think your garden is a 'safe risk.'"

But the unexpected is said to be that which always happens. The very next day, Mr. Lee, the largest land-owner in that part of the valley, decided to move a large band of cattle from one ranch to another. They were strung out along the highway for a mile or so, with twenty or thirty vaqueros keeping them out of the wheat fields. There were some fences along the road, but they were old and poor. A dozen or more wild Spanish steers charged through all obstacles and into the Bailey fields. They struck the cross-road and made a bee-line for the house and corrals beyond. Several of them charged through the garden, making it appear a perfect wreck, and carrying off a tangle of vines and broken lattice on their horns.

Several Mexican vaqueros galloped after the cattle, and, after a long chase over the field, they were driven and lassoed into subjection, and taken back through the broken fence again, to join the band far down the dusty road.

Mr. Bailey saw the affair and came in from the field. He looked over the fragments of fence into the sunny garden where so many hopes and so much happiness had clustered. A little woman was

sitting in its ruined heart, crying over her trampled pansies and broken rose bushes. He walked in and picked her up in his strong arms, and comforted her with an unspeakable gentleness.

"Never mind, dearest, we are not going to give up, are we?"

"No, indeed, John. But it is dreadful. Half the pansies are spoiled and the garden looks as if it had been struck by a tornado, and one beast wore off half the sweet peas on his head."

"A triumphal wreath, to be sure."

"John, this is not funny; it is simply awful."

"Yes, of course. It quite puts me out of conceit with life," he said in a tone of high tragedy, and they began to take an inventory.

"Mr. Lee's Spanish steers have done more harm than they are worth," said Mrs. Bailey.

"I am sorry about it," said a voice in reply, and both, looking up, recognized Mr. Lee, the owner of the cattle, standing near.

Mrs. Bailey caught her husband's hands. "John," she cried, "tell him about our garden and how we loved it; tell him that we know it was not his fault, but it all came so suddenly." So saying she gathered up an apron full of broken flowers and fled into the house, without one backward glance.

John Bailey shook hands with the cattle owner, whom he knew slightly as a man of wealth and character.

"Your wife must not feel badly about it," said Mr. Lee. "I happened to be riding to one of my ranches, and saw the performance. My vaqueros were careless. Now, I want you to let me send Mrs. Bailey a box of plants to replace those that are destroyed."

"The damage is not great, and it does not seem right to take any money under the circumstances," replied Mr. Bailey.

"This won't do, Mr. Bailey. This garden has been a 'means of grace,' to use an old circuit-rider phrase, to all the neighborhood. Your wife's plants are carefully treasured in tenant's cabins, and on ranches in the hills, fifteen miles from here; I see them blossoming in the schoolyard, too. I shall never hear the last of this escapade of my Spanish steers."

And so they talked until the gentle-

manly cattle owner was invited to dinner, and brought his graces of mind and manner to bear upon the real owner of the garden. After Mrs. Bailey had laughed over some of his stories, the recent disaster seemed much more remote. Then he rode away and left the Baileys at work in their little garden.

Two weeks more and the broken roses were sending out new shoots; the garden was swiftly recovering from its one disaster. There came an invasion, one Friday afternoon, that astonished Mrs. Bailey. Two great farm wagons brought all the school children and their teacher for half an hour's visit. Out of the wagons they took bouquets of flowers, and blooming plants in pots. The children trooped into the house and gave the little woman a floral surprise party.

"Mr. Lee said we might expise you," said a little girl to Mrs. Bailey, as she offered her tribute.

There were more roses, of course, climbers for the house, and some of the lovely new Teas that Mrs. Bailey had sighed for; there were jasmines and heliotropes, and a paper of daffodil bulbs for the next winter's planting. So the garden had to be enlarged to give room for the new-comers. Mr. Bailey stayed at home for two whole days and helped in the task, for each plant had to be heavily watered and well shaded, to root at that season. But they all grew and flourished, and the garden was full of flowers all the autumn. Even through the winter Mrs. Bailey could find blossoms there.

The harvests were gathered, and the Baileys cleared enough money to make them feel very hopeful about trying a second season. Otherwise nothing of moment occurred to advance the tides of their fortune. No heartless landlord had his life saved by Mr. Bailey, and was thereby moved to give him a farm. No old Spanish silver treasure bound in rawhide had been uncovered on the ranch. No rich relative, cognizant of Mrs. Bailey's charming disposition, had made her heir of his cumbrous gold. In short, no bonanza of any sort revealed itself to the hero and heroine of this narrative. Their rose garden was the most notable and interesting exploit of their year, aside from the piles of sacked-up wheat that John hauled to the railroad station. The first

rains came, the wild geese flew northward, the year's toils were ended. They sat by the roaring blaze of oak, in the great fireplace, and talked together.

"John," she said, "how happy a year it has been! Though we are 'only renters' we have a home-like home. The experiment is a success. No more city life for me. 'Farewell proud world.' It is so nice," she continued. "Last fall, when we came here, it was so barren and forlorn that I was homesick for San Francisco, and if you had not been so good, I might have cried my eyes out. But now, there are our dozen house plants on the shelf to bloom all winter, besides the garden. And we shall have our evenings to read Stedman's American Literature and Parkman's Histories. John, let us buy some standard books every winter."

"Of course we will. I tell you what it is, Marian, when I can send straight to a dealer, and get what I want to read, the average book agent can't make any money out of this family. Do you know, Mr. Lee tells me that two hundred copies of a most absurd subscription book on the 'Religions of the World' were sold in this end of the valley last summer."

"Then," said Mrs. Bailey, "some time when we can afford it, I should like a good horticultural publication, and one of the first-class magazines, not a silly one, but something that we should both enjoy."

Mr. Bailey had subscribed for the *Magazine of Horticulture* and the *Century Magazine* about a fortnight before, and the first issues of the coming year were in his pocket when she spoke, so that it was with considerable amusement that he replied:

"I am afraid that we cannot afford to spend any more money on magazines until after the crop is put in. You won't mind?"

"Of course not, John."

Then, ignoring the near approach of Christmas, he dropped the magazines in her lap and had his reward in her entire surprise.

"John," she said, presently, "the school children have formed a club and raised ten dollars to buy flower seeds for next spring."

"That is pleasant," he said. "Nothing could be better neighborhood news. Next

year there will be larger gardens. You did not waste your 'surplus,' Marian."

"How hard it rains, John. Another good wheat year ahead of us, don't you think?"

"If it is, we will be another step towards owning our home. Then we will plant an orchard, and have a vegetable garden, small fruits, a vineyard, a lawn, and all the 'suburban comforts.'"

"We must not forget the rose garden, John."

"No, indeed, you shall have all the roses in the catalogues, Marian. I have had almost as much happiness out of your garden this year as you can possibly have had yourself. It was a blessed thought of yours to keep a little corner for flowers, and if every wife could do it, there would be many more of the real sort of homes. It sounds like a moral lecture, I suppose. But I can't help remarking that our rose garden has been our greatest success."

CHARLES HOWARD SHINN.

THE GARDEN MOLE.

Our lawn and garden have for years been riddled with mole tracks, and many and varied and unceasing have been our efforts to destroy the moles. It was found that they were worse in rich, highly cultivated soils, and our stiff clay is the best material in the world to stay in shape for their underground railways. Mole traps, castor beans, bits of poisoned bread, meat and corn have been variously scattered about, and now and then a hostage is dug out of the soil by an enterprising big brown setter, who is fond of the sport, or by some member of the family who is patient enough to watch a fresh track and, when the mole moves along, throw him out with a trowel.

We are obliged to protect tulips, tuberose, tigridias and other toothsome bulbs with an underground fence of stakes, stones or tile; and young trees and rose canes are often cut off at the root when in the track of a mole. We found that the last named plants were best protected by scattering a quantity of broken glass about the roots when planting. And now after all it appears that beyond the industry of making the tracks the poor little mole is blameless, and I am very glad to accept this as truth from theory and experiment, for it is hard to kill the cunning little fellows after you have caught them. What a beautiful soft, fine, smooth, silvery fur the little mole has, gleaming like cut plush! and his grotesque little shovel hands that move so helplessly and appealingly above ground. The sharp nose is a wedge which the four short, broad hands follow and the track left is a snug fit for the cylindrical body. You can't find any eyes for a mole, and his tail is only a ru-

dimentary tag. The mole is not an underground epicure after all. Don't scorn him for his poor tastes, for instead of being an enemy, he is a well-meaning, though blundering, little ally.

Mr. LONGENECKER of Ohio has experimented to determine what is the food of the garden mole, and made a report to the Columbus Horticultural Society. He found that instead of feeding upon plump, juicy bulbs and roots of flowers and vegetables, the mole has the very poor taste to prefer white grubs and angle worms which breed and hatch in the fertilizer used in the soil.

"Quite a number of moles were caught and placed in cages containing earth in which they could burrow. Soaked corn, bulbs, seeds, roots and various other vegetable substances were put into the cages. But in no instance did they devour any vegetable matter even when left without other food until they starved to death, as they would within thirty-six hours when left without insect food. They seemed most fond of the white grub and angle worm. After being in the hands a few times the moles become quite tame, and will eat the grubs and worms while being held. They feed several times a day and will eat twice their weight of grubs in three days."

There! I think I will have a mole for a pet. His skin is finer and sleeker than any other fur, and if clean silver sand were kept for him to burrow in, and his peculiar aroma kept down with a more pleasing toilet water, he would be quite companionable.

It is the field mice, then, which profit by his industry and following in his track

eat our choice bulbs and roots, and get the benefit of poisoned corn; and the practice of placing this in the runs may rid us of them if kept up, but don't try arsenic. It is a favorite tonic of theirs. I tried it on some mice in a bulb pit and they waxed fat and grew in numbers and

proportions. *Nux vomica*, phosphorus, and strychnine are sure to kill them. They sometimes scratch out shallow-planted freesia bulbs and seem very fond of them, as also of violet roots and young rose and fuchsia shoots.

L. GREENLEE.

A BEGINNER IN FRUIT-GROWING.

NUMBER 14.

Two or three days after the terrible frost of May 17th I was looking over some loose papers when I found an old writing-pad cover with this memorandum on it: "Write for Vick an article on Combating the Weather." Probably a more careful attempt at expressing what I was aiming at would have resulted in my writing "Flanking the Weather;" but expressed either way the words seemed a mere mockery, in view of the fact that the weather had just knocked me out of several hundred dollars, and I was powerless to prevent it.

In spite, however, of this discouraging fact there are many ways of mitigating and combating the eccentricities of the weather that are worth considering. There are ways of fighting late spring frosts but they are not always practicable. The most efficacious is seeking an elevated site which abruptly descends to lower ground, affording atmospheric drainage, the colder air seeking the lower ground. An illustration of the value of elevation was revealed on the writer's place in the case of the frost alluded to. I have a peach orchard occupying a side-hill where the difference of elevation between the highest and the lowest is about the same as the height of the trees. On the highest rows very little injury was done, but on the lowest no fruit at all was left. The same is true of cherries and other tree fruits. I had the curiosity to climb a pear tree before the frost was melted and found that at 22 feet from the ground there was only a trace while at the bottom both foliage and fruit were frozen stiff. The foliage of hickory trees was seared to a height corresponding in a measure to the elevation of the ground.

As to artificial protection, one man in a neighboring town is reported to have saved his plums in a small orchard by

keeping up a smudge of thick smoke underneath while several covered their berry patches with straw and saved their crops. One commercial grower reports saving seventy bushels of strawberries, but of course the result is estimated and I have not heard how much ground was covered. To expeditiously cover and uncover a large plantation would require that the piece be narrow and not surrounded by other growing crops, and that considerable help be obtainable on short notice. Frost is, however, the most difficult of nature's phases that the fruit-grower has to contend with and it often comes under such different conditions that it is difficult to foresee or provide preventive remedies.

I once tried to ward off frost from a strawberry patch by building smouldering fires, and my hired man and I worked faithfully nearly all night, but the wind was variable and the smoke could not be made to hang low or protect any given spot for any length of time. Other unfavorable weather conditions can be more successfully parried or turned to positive advantage. Underdraining renders ground dryer and warmer and more productive and sometimes decides whether the crop shall be grass and weeds or berry bushes. A low, wet valley crossing berry rows, often prevents cultivation when the higher ground is just right; and a field of an irregular or spotted appearance, caused by different conditions of moisture, cannot be plowed and fitted at just the right time.

There are times when planting can be most successfully done; when everything put out will live, and then is the time to do it even if extra help must be employed. This year my early-planted strawberries had, on May 25th, but seventeen vacancies in a thousand while those planted two

weeks later on a cold, drying day and at the beginning of a three weeks siege of very drying, windy weather, died to the expensive tune of 20 per cent.

The effects of drought on plantations of raspberries, blackberries, tree fruits, vineyards, as well as hoed farm crops, can be largely counteracted by shallow, but persistent, cultivation. N. OHMER the widely known Ohio veteran fruit-grower, says he prefers a dry season because it ruins the crops of slovenly cultivators and gives the others a chance for good prices. He cultivates raspberries and blackberries once a week until picking is commenced.

I need hardly remind intelligent beginners that rich soil is more easily worked and suffers less from drought than poor. Where one has a choice of ground something can be done in unfavorable seasons by judicious selection of soil. Melons, tomatoes, Lima beans and all semi-tropical vegetables should be planted in warm, sunny exposures, and all garden truck as well as fruits will be much later on the north side of a clay hill than on a southern slope of sandy loam. I have often, by planting on top of a hill, got profitable crops of tomatoes, cucumbers and sweet corn in October after most gardens were cut short by frost.

There is one other way by which the weather often gets the upper hand of the gardener and that is by favoring the growth of weeds. Day and night, Sundays and week-days soil and sun combine to cover

the ground with something green, and the result is often discouraging, especially if the gardener is a little slow or trusts to old-fashioned methods. Modern machinery has, however, done much to relieve the farmer and gardener, and instead of waiting until crops of weeds are an inch or two high it is possible to kill them before they appear above ground. As an example: this year I planted a piece of potatoes with an Aspinwall planter. It left the potatoes beneath a little ridge distinctly visible, and a wheel-mark between each two rows. When the potatoes had been planted two weeks grass and weeds began to show and I had the Planet Jr. run twice between the rows. This cleaned up the ground and threw a light covering of soil upon the ridges. These ridges we intended to comb down with a Breed's Universal Weeder, but a series of heavy rains delayed its use until the potato sprouts, white and tender, were near the surface, so I had a one-horse harrow run between the rows, and shall use the weeder later. I have always cultivated strawberries with a Planet Jr. about once in two weeks, beginning soon after setting. It leaves a ridge that is unsightly and annoying in hoeing. This year I shall remove some of the teeth from the weeder so as to straddle two rows and use this in the alternate weeks. It will keep the ground level, stir the soil and materially lessen the labor of hoeing.

L. B. PIERCE.

THE PRIDE OF CALIFORNIA.

California has doubtless furnished a greater variety of lovely wild flowers and beautiful plants that have gracefully yielded to cultivation than any other State in the Union. Annually new members of her floral circle win their way into our gardens and a permanent place in our affections. One of these latest introductions, known for years among the simple mountain people of Southern California as the "Pride of California," has become widely recognized as well worthy of the name.

This is the deep rose-red to crimson flowered perennial pea, *Lathyrus splendens*, named many years ago by one of the charter members of the California

Academy of Science, Dr. ALBERT KELLOGG, whose memory is held in reverence by those who knew his pure life. For many years after this handsome vine had received its name it was completely lost sight of by botanists, until its very existence was doubted, and in the great work on the flora of California (Watson's Botany) was treated as a synonym.

In the spring of 1882, a party of several botanists, including the late Dr. C. C. PARRY, started from San Diego to explore the then little known peninsula of Lower California. Just below the line, in a rocky canyon, we discovered this magnificent flower, ornamenting the evergreen bushes along the watercourse with its graceful

and brilliant clusters of blossoms. Dr. PARRY at once enthusiastically shouted, "it is Kellogg's *Lathyrus splendens*," and such it proved to be.

Many times since have I seen it clamoring over the bushes on the higher table lands of Lower California, beside some perennial stream, or bordering a dusty highway. In the mountains back of San Diego, this year (1890), it was one of the few wild flowers that had "watched the old year out and the new year in." It was in its greatest splendor in April, when the bushes for miles and miles were heavily loaded with its showy blossoms; on the 15th of June I plucked evidently the last cluster of the season.

The beloved botanist, Dr. ASA GRAY, had the pleasure of admiring and picking

this flower in our garden, on his last visit to California. Though Dr. PARRY, at the time of its rediscovery in 1882, introduced it to the attention of European horticulturists, by whom it was well received, it was not until last year that this, the loveliest vine in the West, received mention in America.

It is considered hardy, blossoming the second season from the seed, forming a strong vine, capable of covering a veranda or arbor. Dr. PARRY, after seeing it covering a porch in San Diego with its luxuriant foliage and profuse blossoms, pronounced it the handsomest plant in the West. Well may it be called the pride of the two Californias—Upper and Lower—and a fit representative of two republics.

E. R. ORCUTT.

THREE ANDROMEDAS.

It never occurred to me that the "sourwood," *Andromeda arborea*, was an especially handsome tree, until the *American Garden* began to make much of it, and then I wondered at my former lack of appreciation. True, my devotion to the clear, limpid honey made from its sweet, bell-like flowers had often been marked, but it was solely as a "bee tree" that I pleaded for its preservation when clearings were made on the farm. Now I have decided that on my ideal farm there shall be a row of them along the fence with bee hives, Improved Quinby, beneath them. Besides the beauty and fragrance of its great open panicles of white flowers in long, one-sided racemes, the oblong-lanceolate pointed leaves, are among the first to color after the early frosts, and their tints are brilliant and beautiful. The brown, dried seed-pods are also quite pretty among grasses. GRAY calls this tree *Oxydendrum*, meaning "sour-tree," because the leaves are sour to taste, but LINNÆUS called it, fancifully, *Andromeda*, from the old mythological story, I suppose. It is the tallest of the *Andromedas*, growing often to 40 or 50 feet.

Andromeda Mariana, or stagger-bush,—

most uncongenial name for a lovely little shrub,—is not so common here, for it has been most assiduously weeded up by thrifty farmers whose lambs and calves are prone to eat of it, much to their detriment. It is not so tall, two to four feet, or showy as the first mentioned species, and even where growing plentifully, is not so much noticed. The flowers are white and bell-shaped, with bright scarlet stamens, and grow in loose, graceful clusters from scaly, axillary buds. Its leaves are oval, dark green and shining.

Another *Andromeda*, that I have never seen mentioned outside of botanical works, but which is very handsome and quite common here, is *A. floribunda*. Its leaves are serrate, and acute-lanceolate, evergreen and glossy. In the axil of every leaf is a densely crowded panicle of white, bell-shaped flowers, which are formed in summer but do not expand until the following spring. The pedicels are one-sided and bracted, and the shrub is of drooping habit, trailing its flower-laden branches over fallen mossgrown trunks, gray rocks, or into the edges of the limpid mountain streams beside which it grows.

L. GREENLEE.



FOREIGN NOTES.

A NEW BEGONIA.

At one of the meetings of the Royal Horticultural Society in April a new variety of begonia, named *Triomphe de Nancy*, was adjudged an award of merit by the Floral Committee, and according to the *Journal of Horticulture*, which illustrates the plant, it well deserves the recognition. The plant is described as "dwarf in habit, but strong with broad, rounded, peltate leaves, suggestive of



BEGONIA TRIOMPHE DE NANCY, REDUCED SIZE.

some of the hybrids from *B. socotrana*. The individual flowers are small, bright rosy-red, pretty both in the bud and when expanded, but they are borne in such numbers on the slender branches of large graceful panicles that the plant is very conspicuous." Inferentially this is probably a tuberous variety, and introduced by Lemoine, of Nancy, France.

CARNATION CALYX-BURSTERS.

During the last few years a great many misleading paragraphs have been published concerning the carnation, and the National Carnation Society has been attacked, because it encourages the flowers that have a tendency to burst open the calyx. I was told by one gentleman, who is supposed to be a great authority on carnations, that such flowers ought not to be grown at all; now, I freely admit that it would be much better if we could

get flowers, the petals of which would always be confined within the bounds of the calyx tube; but this is impossible. The most popular carnation at present, and one of which more plants are grown than any other, is *Souvenir de la Malmaison*, and the flowers of this variety are never confined within the compass of the calyx; but the growers who produce flowers to be sold in the florists' shops, manage to keep the large flowers in proper

form by tying round the calyx with a strip of matting. When flowers with this characteristic are grown for exhibition, the cultivator can sometimes prevent the disaster by slitting the calyx down a little on the opposite side to that where the petals have begun to slit it open, and at the same time it may be tied round lightly with a thin strip of matting. It is verging on the ludicrous to stigmatize this simple

process as misleading the public.—J. DOUGLASS in *Gardeners' Chronicle*.

TECOPHILÆA CYANOCROCUS.

This beautiful bulbous plant from Chili has proved to be quite hardy, even in the past severe winter. Formerly, we cultivated it in cold frames, but gave it last autumn a trial in the open ground, with good results. It is now carrying blooms which are deep blue in color. Bulbs of flowering size should be planted in August, three inches deep, in rich, well-prepared soil on a sunny border, or in pots two inches deep. They are very suitable for pot culture. The bright colors of the large, scented beautiful blue flowers, which everyone admires, will give great satisfaction. After potting they should not have water during the first month, they are far better a little dry than wet.—J. K. BUDDE in *Gardeners' Chronicle*.

ROSE MRS. PAUL, BOURBON.

This new rose, raised at the Chestnut Nurseries of Messrs. Paul and Son, bids fair to become a great favorite. All the points which characterize a good rose seem to be embodied in it. It is deliciously scented, which is somewhat of an exception in others of its class; its perfume, it is true, is not so powerful as in the case of some older kinds, but quite sufficient to please the taste of many. In

I advise their culture. They may be grown by anyone possessing an ordinary frame or a cool greenhouse. For the earliest lot I usually sow early in March in a temperature of 50° to 60°. The best way is to sow the seeds in well-drained small pots in a sandy compost. The seedlings when above ground should be kept close to the light, as they quickly draw and become weak if neglected in any way; they also require severe thinning, only leaving four to six plants. These must be potted on into five-inch, and finally shifted into eight-inch pots if large specimens are desired. Seed may also be sown in pans, and when large enough to handle, pricked off into small pots and shifted on as required; but for a few pots of early bloom I find sowing the seeds in small pots and potting on is a saving of time, as the seedlings get no check in any way. These plants like a good compost, and should get good loam, leaf-mold, and manure, with a little sharp sand if the loam is heavy. They also take plenty of liquid manure when their flowering pots are full of roots during the summer months. They may be had in bloom from May to November with little trouble, as they require but little heat. If grown for winter bloom, smaller pots, say six-inch, are large enough, and the seed may be sown in July, August, or September, using a larger quantity of loam and no manure, only leaf-



BEGONIA TRIOMPHE DE NANCY, FLOWERS NATURAL SIZE.

color it is a delicate satiny pink, the blooms being beyond the average size, full, and of fine substance. The outer petals reflex, whilst the center remains close and compact. The growth of the plant is robust and the foliage a deep green.—*The Garden*.

BROWALLIAS.

The browallias are not grown as much as they deserve, as they are, when in flower, pleasing objects in the conservatory, and of easy culture. *B. elata* grandiflora and *B. alba* are the best for pots, and by sowing at different dates they may be had nearly all the year round, but it is for summer and late autumn decoration that

soil in the compost. For summer blooming, larger pots than eight-inch may be used if very large specimens are wanted. It will also be necessary to pinch the points out during their growth from the time the plants are six inches high, so as to get bushy, well-furnished examples. For summer and autumn bloom I usually sow three times—early in March, again in the middle of April, and at the end of May. This gives a succession of bloom well into November.—G. WYTHES, in *The Garden*.

AMARYLLIS FORMOSISSIMA.

This plant, also known as *Sprekelia formosissima*, should not be forgotten in the race after the magnificent hybrid forms of

the amaryllis, which are now brought to such perfection, for the color of the flowers is particularly rich, while they are quite unique and beautiful in form. To flower it well, it must be thoroughly dried off and ripened after it has perfected its growth, and kept so until it is required for starting again. I find good fibrous loam with a liberal dash of sand is a suitable medium in which to grow it, and it should be well rammed into the pot, making all quite firm. Watering with manure water appears to help the plants when growing, but should not be continued too long or given too strong, or the result will be unripe bulbs and few flowers next year. It is quite amenable to gentle forcing, so that, although the flowers do not individually last long, a succession may easily be kept up for several weeks. My plants have done very well this year, most of the bulbs having produced two flowers, and none have refused to bloom altogether. They are grown seven bulbs in a seven-inch pot, and in this way they make a good display.—J. C. TALLACK in *The Garden*.

HYDRANGEAS.

Anyone with a warm greenhouse may have these in flower from March until end of August, and very few plants are more useful and showy, especially for the amateur.

Hydrangeas are not subject to any insect pests, are easily increased, and may be grown out of doors during the summer months, so the amateur has but little trouble in getting a fine show of flowers upon these most useful shrubs. The best plan, when growing for pots, is to strike cuttings every year, and these can be struck best in a cold frame or under a handlight during July and August. Shade during bright, sunny days until they are rooted, when they require all the sun and air possible, as without this they will not ripen their wood and so bear a fine head of flowers during the following spring and summer. No frost must be allowed to touch them, and they may be potted end of September, stood in some cool house,

and introduced into heat as required. The cuttings should be the tips of the shoots made upon plants that have grown too large, but it is best to choose those with a fine healthy terminal bud, as this has to grow on and form the flower head of the future plant. As soon as the pots are full of roots and the plants in good growth apply liquid manure pretty freely, as this will help to increase the size and beauty of the flower heads.—*The Northern Gardener*.

DOUBLE ANNUAL POPPIES.

Those who have not grown this annual should do so during the coming season. Two colors, scarlet and white, are especially noteworthy. Not only do they make a grand display during the summer in the herbaceous border, but they are useful for cutting where distinct colors are required. In a cut state these double poppies perhaps show to the best advantage placed singly in specimen glasses. Like all the poppy section they are best placed in water at once before the pores are sealed by the sap from the flower-stalk; in this way they last much longer than if the wounded part is exposed for a time. Although rose and lilac can be had, I think there is none to equal scarlet and white.

The height attained when the plants are strongly grown, as they should be to give the best results, is about four feet, and stiff soil suits them much better than a light peaty one. Poppies like manure, and pay for the outlay, not only in more and finer flowers, but by the improved appearance of the foliage. Culture is a simple matter; one point especially should have attention—do not crowd the plants; if so, failure must follow. Each should stand almost clear of its neighbor, thus success is assured. Sow half a dozen seeds at once in a space of about one square foot, and cover with fine soil. It is useless to transplant these poppies, as they cannot bear the roots being disturbed, no matter how carefully it is done.—*Jour. of Hort.*



PLEASANT GOSSIP.

PRAIRIE GARDEN NOTE.

"The wilderness shall blossom as the rose." I determined that my particular spot in the wilderness should do so as far as I could aid it, and decided to devote a horseshoe-shaped spot, enclosed by the driveway from the barn buildings, to the purpose. But fenced it *must* be from the nature of its situation; and money for fencing a *flower* garden looked a dim vision of the far future. "Where there's a will there's a way." If ever that was an axiom it is so in the case of a woman who wants flowers.

There were plenty of old salt barrels on our own farm which I thought I could use. I nailed boards to the trees which surrounded my garden spot, at about half the height from the ground of the barrel staves, then I nailed the staves to these at their centers with shingle nails and I have a low fence which serves to keep out dogs, chickens, etc., but gives a good view over the garden from the house and to persons walking by. For looks, and to keep out chickens, it is better to saw the staves to a point at the top. With the exception of an intervening post or two between the trees I could do all the work myself. I made a gate of the staves with boot leather hinges, and it swings by a contrivance of fence wire, and has also a wooden latch. SILEXIA ENGLISH.

DANGEROUS TOMATO WORMS.

Is the tomato worm dangerously poisonous? I had never thought them so until last summer, when I was told, by a visiting friend from southern Kansas, of the death of a young girl, in her vicinity, from the sting of one. She died in a few hours. My friend says that they sting with the horn.

Wondering if I was alone in my ignorance, I have since inquired of many people if they knew the facts of the case. All seemed to agree that the worm is repulsive enough to cause avoidance, but only one knew of any poisoning case from them; and that one was somewhat doubtful. A little barefoot girl, running among

the vines with her mother at dusk of evening, was bitten or stung by something which caused swelling and spotting of the limb like the bite of a rattlesnake; but no bite was visible. She recovered, however. If they are so dangerous as to cause death, the fact should, I am convinced, be more widely known. The worm is not easily seen, owing to its habit of clinging to the underside of a leaf, which it resembles in color, and even close looking sometimes fails to find them. I had ample experience of this last summer for I killed, almost daily, fifteen to twenty-five on my small patch of vines, and became somewhat careless in my endeavors to get rid of them. Will somebody who knows more of them and their habits of reproduction, please tell us? S. E.

VINES FOR PORCHES.

It is a question with many what vines to choose for climbers about porches. It does not seem desirable to cover a porch entirely with any vine, but at certain portions when one wishes to exclude an unsightly view or is desirous of shade, a free growing climbing plant proves effectual.

The climbing bitter-sweet (*Celastrus scandens*) with its glossy leaves and scarlet berries, false buckwheat (*Polygonum scandens*), clematis (*C. Virginiana*) with its copious clusters of white blossoms, trumpet flower (*Bignonia*—named after Abbe Bignon, librarian to Louis XIV), the scarlet blossoms of which are familiar to every one, are among the numerous wild plants that have been adapted to our use in this direction. They are decorative and all of them rapid growers, but they lose their foliage earlier than our less hardy vines.

The moon flower (*Ipomœa grandiflora*) in our northern climate does not mature early enough to give us the wealth of blossoms we are led to expect from it, but it retains its large, glossy leaves until late in October, is clean, and free from insects, and makes a good screen from the sun. *Cobœa scandens*, with its curious twining leaves, is a beautiful climber

and keeps its foliage until frost comes, which for porches is a strong recommendation.

Madeira vine, Allegheny vine (*Adlumia*), Canary Bird Flower (*Tropæolum peregrinum*), are pretty growers, but to be effective for shade must be planted thickly. Our Virginia creeper is good and will grow everywhere; it must be kept free from aphids by infusions of tobacco. The honeysuckles are desirable, and fragrant climbers. The foliage is a beautiful green and by combining the varieties one can have constant bloom from June until November. They grow rapidly and are easily trained upon wire trellises. They possess every requisite of a climbing plant.

F. L. W.

OUR ROOT CELLAR.

Believing fully with the eminent divine who, in reference to the custom of ascribing deaths by typhoid fever, diphtheria, etc., to "providential dispensations," said that if people would look to their drain pipes and cellars they would see that the evil was not from Providence; so, in setting up our lares and penates we decided to use some forethought and keep out such visitations. Much puzzling and thought resulted in a determination to build a root cellar midway between the kitchen garden and barn and save the cost of it in doctors' and undertakers' bills.

We had a space about eighteen or twenty feet long and ten feet wide marked off and dug down more than five feet. Then posts were inserted at the corners and at proper intervals on the sides, and boards nailed to them, thus forming a solid wall. The space between this wall and the outside wall of earth, about five inches, was filled in with sawdust. On the bottom a few tiles were laid to prevent moisture or seepage. A good plank floor was then put down and partitions built for various bins. The roof sloped steeply down and touched the walled-up earth outside. A layer of felt paper between the boards and shingles which formed the thick roof supplied extra warmth.

Two small chimney-like openings with adjustable covers on the roof gave ventilation, and at the west extremity was a removable trap door, three feet by two feet, which could be lifted to fill more expeditiously from the wagon the great baskets

of mangel wurzels, carrots, etc., for the faithful cows and horses. The roots were stored in a receptacle built expressly for the purpose in the west end of this root cellar. A hallway on the north side made it easy to reach the bins and compartments, which were all on the south.

A door, like an outside cellar door, opens on a few steps leading down to an inner upright door of plank covered with felt paper. This door opens into the cellar proper, and here for ten years we have stored roots and vegetables. The annoyance of opening the house cellar door in very cold weather, the picking over of fruits and vegetables, and the disorder incident to these operations, are all done away with, and our root cellar is an indispensable storehouse on our place. Beets, onions, carrots, parsnips, potatoes, turnips and apples are here stored in their separate bins, with roots for the farm animals, and never has one been frozen, although the thermometer sometimes registers 30° below zero outside. I must not omit to add that the entire cost—not including work done by our hired man, such as digging and assisting the carpenter—was about thirty-five dollars, and we hope to enjoy our root cellar for twenty years to come.

ALLON DUDLEY.

AN AMATEUR'S EXPERIENCE.

I had always considered begonias admirable in leaf, stem and flower, and could imagine nothing more beautiful than the flowering sorts until confronted with the tuberous varieties, the blooms of which were a revelation. A desire to possess some followed as a matter of course, and learning from the floral catalogues that the coveted beauties could be easily grown from seed, I resolved to try my skill in their culture, and succeeded so well that I give my plan of procedure, feeling sure that when they realize how simple it is, other amateur's, who have seen, admired, and covet tuberous begonias, will follow my example.

First, then, the soil—equal parts of loam, sand and leaf mold—was carefully sifted into a shallow pan with a perforated bottom, the latter placed upon a tray capable of holding water. By this arrangement the necessity of showering the seeds and young plants from above was avoided, the earth gradually absorbing the

moisture from the tray. As begonia seeds are very fine, in sowing I mixed them with twice their own bulk of sand, and scattered all evenly over the surface of the soil, lightly pressing them down with a strip of stout cardboard. Very small seeds should not be smothered by deep planting. Then the pan was covered with glass and set away in a warm, dark corner, and except that the water in the tray was renewed daily—from the start begonias are thirsty things—no further attention was given until the baby plants appeared two weeks afterward, when the pan was brought to the light. The seeds came up abundantly, but the usual percentage of loss by damping off and various causes followed. Notwithstanding this, in six weeks time I had fifty thrifty little plants ready for potting; this process was safely accomplished by cutting the shallow layer of soil into tiny squares, each square containing a plantlet, which were easily lifted to a thumb pot on the point of a knife blade; they grew fast, rapidly throwing out their delicate leaves. In June, the begonias were repotted and plunged into a partially shaded garden bed. Half of the whole bloomed in July and August. They were of all colors and form, red in variety, pink, white, yellow, double, semi-double, single, large and small. The other half made fine large bulbs for future flowering.

Many foes beset a city garden. Owing to causes quite outside themselves, my fifty begonias had dwindled to thirty when I took them in on a day in late September. Several of the largest went on blooming in the window garden, and I never saw such a profusion of flowers on any other kind of plant; the stems, too, of red or pink coral, fairly gleamed in the sunshine, and contrasting with the waxen green leaves, made a picture for the eye of an artist. When, in November, the plants showed signs of exhaustion, the bulbs were dried off in the usual way, and stored in dry sand, to be started again in April for another season's work.

Anyone acquainted with the price of begonia bulbs can readily see how profitable this experiment has proved. I have thirty fine bulbs valued at twenty-five and fifty cents each, from a paper of seeds costing forty cents. For the rest, flower lovers will understand the pleasure at-

tending such an undertaking—the delight experienced when blossom after blossom appears in turn, each urging its own special claim to admiration, with always the possibility in prospect of raising some entirely new combination of color with which to astonish the world.

ALICE D. ENGLISH.

A HINT FOR SOME ONE.

I visited a popular seaside summer resort for several days last summer and one morning while walking along a road much used for driving and as a fashionable walk, I came across a little bit of an old house standing well back from the road with a generous expanse of yard in front of it. This yard was simply gorgeous with flowers, many of them of the old-fashioned kind that our grandmothers always had in their "posey beds"—poppies, pinks, ragged robins, lady-in-the-green, marigolds, larkspurs, and roses of all kinds. Almost every foot of the entire yard was one big flower-bed.

On a board at the front gate were the words, "Flowers for sale." An elderly woman in a dark blue calico dress and a checked gingham sun-bonnet was working among the flowers, and two young girls were sitting out on a little porch making very tasteful bouquets. I stopped to purchase half a dozen of the gorgeous scarlet poppies and was told by the woman that she was "very sorry," but all her poppies and roses and many of the other flowers were sold, "and I could sell a good many more if I had 'em," she added.

"You find a ready sale for your flowers then?" I said.

"Oh, la, yes," was the reply, "speshly the roses and these big red poppies. And I sell lots of these old-fashioned flowers, too. People come walking or driving by and see 'em and I guess it kind o' reminds 'em of their mother's or their grandmother's gardens, and they stop and buy big bouquets of 'em on that account. And one of the big hotels takes six big bouquets a day for its dinner tables. My girls are making up these bouquets now, and I've orders for six extra ones to-day, on account of a ball, or something, going on at the hotel. I do real well all summer long with my flowers, besides enjoying 'em myself. It costs me almost nothing to raise 'em."

I wondered why other women living permanently at or near seaside resorts did not emulate the example of this thrifty flower-grower. Perhaps they have never thought of it. I think such a garden would pay at any summer resort. J. L. H.

STRAY LEAVES.

Gather up the stray leaves as they fall, or at any other time, and pile in some out-of-the-way corner where rain and frost have full sway. A little brush may be laid over them to prevent scattering. Keep them damp as much as possible and add to them whenever you can. A boy with a cart could gather a good supply under the trees along the street, if you have no other source. Let them lie and rot and after a time you will have a supply of the leaf-mold so much desired for potting or bed-making purposes.

Anyone who thinks my remarks on seed saving in the number for October, 1890, were too finely drawn should see my pansy seed-box at this time, where were sown seed, from a firm of world-wide reputation, side by side with seed from my own hybrids, saved as directed in the above mentioned article. The seeds have been sown 21 days under favorable conditions, having been put in April 1st. The purchased seed has made what is perhaps a common showing. One variety has not sprouted. Others vary from eight to forty per cent., the latter being the best showing. One hundred per cent. of my own have sprouted and did so five days in advance of any of the others, the seed leaves are about double the size and have a much more thrifty look. All were sowed in the same 12 x 30 inch box. Herein lies a hint that commercial florists might use a trifle more care than they do, though none of us look for 100 per cent. in the seed box. My own experience tells me that seed which, for its kind, sprouts slowly, also grows slowly, and feebly, and is long in coming into bloom.

I have just taken a hint from nature, and having, as I believe, studied out the cause, am willing to give you the benefit as there may be others so troubled. In one of my pansy beds where the soil is quite deep at one end and the subsoil of pure sand comes within two or three inches of the surface at the other, I find that plants of the same age and variety winter-

killed at the thin end and came up smiling at the other, and moreover the condition of the plants tapered to correspond with the taper in the soil depth. After digging up some of the plants and examining them I figured it out this way: Plants in a shallow soil must of necessity have their feeding roots near the surface, and, so, fully exposed to the action of frost and thaws, and would winter-kill much easier than the same plant in a deep soil where the roots can get down as far as they like. Most perennials have deep-running roots naturally. On the strength of this conclusion I have this spring taken off the top soil of all my perennial beds down to the sand subsoil and taken out six or eight inches of the sand, replacing it with well-rotted manure and old soil and raking back the top soil. This gives beds 12 to 15 inches deep and, while it has cost some extra work, I expect to be fully repaid in beauty and vigor of bloom and longevity of plants.

I find glass battery jars, which are very similar to old-fashioned candy jars, are excellent things to turn over plants that we wish to give a tropical climate through the cool weather of spring. They hold heat and moisture, two great essentials of plant growth, and are tough enough to stand a good deal of rough usage. They may be quite cheaply obtained of any dealer in electrical supplies.

Some time ago I started a garden record that is now proving a well of information and usefulness, so I will give an idea of it with the recommendation that you try it, modifying it to suit your taste or needs.

Taking a blank book of some 200 pages, I allowed for each subject a suitable number and indexed them on the first page. With ruler and red ink I made the necessary ruling for each subject. "House Plants" shows date received, variety and name of plant, plant number (numbering them in order as they are entered in the book), from whom, cost, dates repotted, dates plunged, dates bloomed, dates ceased blooming, date pruned, remarks.

Under "Cuttings," date received, how many, from whom (if from my own plant, say No. 35, it is so shown and when itself transferred to "House Plants," becomes plant No. 35 a, its descendants being 35 b, etc.), date showed roots, date potted, and

remarks. As soon as potted, cuttings go to the "House Plants" record. "Seedlings" shows date sown, where, temperature, variety, from whom, cost, date sprouted, date and number pricked, date and number transplanted, date bloomed, remarks. "Insects" shows date appeared, kind, what and how many plants attacked, losses sustained, remedy applied.

Then there is a head for tools, cost, etc.; pots, etc.; soil, treatment and cost; fertilizers and cost; weather record; general operations fills the list. The work of starting it isn't much and it grows more valuable each year, for guesswork don't pay even for pleasure. Just try it, even on a small scale.

I wonder how many have ever heard of double trailing arbutus? I have never dreamed of such a thing and find no mention of it anywhere. But through the kindness of a flower-loving friend I recently received some. Two years ago some were found for the first time about 25 miles east of this place and this year it is quite plentiful there. I can detect no difference in plant, flower or fragrance, except that the flower is as double as a rose which adds greatly to its beauty. I am now making some observations on seed sprouting of which you may hear later.

D. M. FARNSWORTH, *Marquette, Mich.*

NASTURTIIUMS AT BAR HARBOR.

Although I have had them in my flower garden for years I never knew until last year how beautiful and even magnificent nasturtiums could be. I spent ten days at Bar Harbor in August and I saw nasturtiums there as I have never seen them in any other place. The beauty, brilliancy and profusion of their bloom amazed me and I would have felt amply repaid for my trip of over three hundred miles on a hot August day if I had found nothing but those nasturtiums at the end of my journey. My own nasturtiums always produce more leaves than flowers, although I have had flowers in abundance, but at Bar Harbor there were more flowers than leaves and the flowers were wonderful for size and beauty and delicacy of coloring. Moreover, they grew in the least bit of soil imaginable. In some places they seemed to be growing right on the bare rocks, and many of the low

stone walls around some of the beautiful Bar Harbor homes were completely covered with nasturtiums in solid masses of gorgeous reds and yellows. Walks and drives were bordered with them, and there were gorgeous patches of them among the gray and brown rocks on lawns and in bits of door-yard that would have been barren indeed without them. The whole residence part of the town was bright and beautiful with them. Petunias, too, seemed to thrive unusually well here, and the flowers were of great size and beautiful in coloring. The salt air and the cool days and nights must have had something to do with the wonderful nasturtiums and petunias seen here. J. L. H.

LILIUM EXCELSUM.

In reading the account of *Lilium Excelsum* in January number of your MAGAZINE I was surprised that the writer said it did not increase like other varieties. I think if A. C. F. would plant hers in the ground, only covering with leaves in the fall, she would find it altogether satisfactory. Nine years ago I planted twelve bulbs and a number of bulblets in a bed well sheltered and with southeast exposure and they did famously. Last fall, thinking they were looking crowded, I dug them to replant, when to my astonishment I found seventy more than I and my friends could accommodate.

The plants grow four or five feet high upon a stout, thick stem crowned in flowering time, which is the same as that of the *Candidum* Lily or early in July, with six or seven large nodding lilies of a delicate straw color set off by showy scarlet anthers; the flowers remain in perfection a long time. It is a sure bloomer, the bulbs are large and perfectly hardy. I think if it was better known it would be in great demand.

E. C. D., *Canandaigua, N. Y.*

SCOTCH BROOM AND GORSE.

In the May number of MAGAZINE Britisher makes Scotch Broom, and Gorse or Furze, the same, when in reality they are very distinct in every thing but bloom; both have yellow pea-like flowers, and so many as to make them look alike a short distance away, but when you get near what a difference! The Scotch Broom has a delicate green stem, with small green leaves nearly smothered in bloom, no thorns, blooms only in spring and early summer, while the stem of the Gorse is completely covered with thorns like needles close together, various lengths, all around the stem (indeed how the flowers

come out so thick is a mystery) down to the very root, all dark green or nearly brown, and no leaves, unless the thorns are leaves; it is of very sturdy, rugged growth, and in bloom about all the time. In the north of England some of the railway embankments are covered with Scotch Broom, self-sown, but I never found Gorse in such a place, but in moister, richer land. There is a Broom, with white flowers, grown a good deal in gardens in England.

ANOTHER BRITISHER.

"Another Britisher" well describes the two plants Scotch Broom and Gorse, but we think he errs a little when he says that "Britisher" makes them the same. If he will look carefully to the language of "Britisher," on page 165, he will find that he only says that "the Scotch Broom mentioned in your last number is no doubt the common furze of Great Britain (*Ulex Europæa*)."
He means that the particular plant found in Washington, and called Scotch Broom (page 105) is perhaps the Gorse. We think that "Britisher" and "Another Britisher" really agree when the language employed is understood. If a better specimen from the plant should be sent by our correspondent, Mrs. A. E. S., Tumwater, Washington, the identity of the plant could perhaps be settled.

The species of Broom mentioned above with white flowers is *Cytisus albus*, while the Scotch Broom is *Cytisus Scoparius*, or *Spartium Scoparium* of LINNÆUS.

BOTANIC GARDEN AND MUSEUM.

To the exertions of a few ladies, in connection with a committee of the Torrey Botanical Club, is due the passage of the act giving two hundred and fifty acres of the Bronx Park, the nearest to the city of the new parks, with half a million of dollars to be raised by the bonds of the city, for the erection of the necessary buildings, provided that the corporation shall raise two hundred and fifty thousand dollars to put the gardens in operation. The famous Botanical Garden at Kew, in England, which has quickened botanical and floral interest and study throughout all civilized communities, was originally a private enterprise, but is now supported by the government. It contributes not only to the scientific eminence of the country, but it furnishes a most elevating, humanizing, and delightful popular resort.

American life needs nothing more than the cultivation and extension of such beau-

tiful and refining influences. It is by such works, as by the popular cultivation of music and every form of art, that a great city shows its true metropolitan instinct and character. To quicken a generous and worthy local pride is one of the surest means of fostering the public spirit upon which the best and most distinctive American institutions depend. The moment, the opportunity, the interest, all conspire for the happy result proposed by this noble enterprise. If the demands on the liberality of New York are large and constant, it is because it is no mean city, and is made magnificent by the generosity of its fortunate citizens, many of whom, and of the most enlightened and liberal, compose the financial committee of the enterprise. A happier site could not be selected, more favorable conditions from the Legislature could not be expected, a more suitable organization for the purpose could not be framed, and more faithful and efficient advocates than the ladies interested and the Torrey club could not be found. It would be almost a disgrace to the city that such a project under such auspices should not, soon and completely, succeed.—*Harper's Weekly*.

AMARYLLIS—KANSAS WEATHER.

Will you tell us the proper treatment for the amaryllis? E. L. in the June number says they need a period of rest. When shall that be given? We had ours resting from November till February and yet it bloomed not. Perhaps we gave it too much water. Should it be watered only when the soil feels dry? Should it be in a very rich soil? When the period of rest comes should all amaryllis plants be taken out of the soil and kept dry? or should they be left in the soil and that kept perfectly dry? I do not know the name of the amaryllis we have, but it is certainly not a desirable variety for we have had it seven years and it has bloomed twice.

Is the Fairy Lily a species of amaryllis? I do not find it described in the catalogue.

We are sorry that Western New York could not have had a portion of the rain that has fallen in Eastern Kansas in the last six weeks. Here everything growing out of doors shows the effects of too much moisture.

E. C., *Edgerton, Kansas*.

As a rule amaryllis bulbs are regular bloomers. The plants after blooming require a certain length of time to increase, or to store up nutriment for another season of bloom. Some species of amaryllis bloom annually and some, when properly treated, several times in the course of the year. Some kinds apparently do not require a season of rest, or at most it may only be partial, while others demand en-

tire cessation of growth and to be kept dry. Most species are benefited by resting or keeping dry for two to four months. At such time the bulbs can remain in the pot. Amaryllis bulbs generally like a rich soil of leaf-mold, and good loam with a little sand. As E. C. does not know the name of the species no very definite directions can be given. Trial should be made in the ways of treating the plant until its habits and requirements are learned. When a plant is growing and making leaves it should have a good supply of water, but a less quantity at other times.

The term Fairy Lily is used frequently for the Chinese variety of narcissus.

DEZEIMERIS PRUNING.

The following notes and translations, describing a method of making the cut in pruning vines will have some interest to vine-growers in this country. The subject is one which, so far as is known, has never engaged the attention of vineyardists here, and it will probably be a revelation to them that the wounds caused by pruning affect the health and the longevity of the stock. On these points, however, M. DEZEIMERIS has quite satisfied himself, and produces evidence which apparently conclusively establishes them. Possibly when the subject is brought to the notice of our viticulturists, more exact observation by them will show that, by the common method of pruning our vines, we are really doing them an injury. The new method of pruning, or rather of making the cut, is called the Dezeimeris method. These notes are based on a report made by M. DE LAPPARENT, Inspector-General of Agriculture in France, and published in the *Bulletin du Ministère de l'Agriculture*.

The method consists in making the cut at the time of pruning at the first node or joint above the point where it is decided the wood shall remain; or, stated negatively, in not taking away at the time of pruning all the wood which we have decided should be removed, but to make the cut at the node above, at the same time destroying the bud found there. The stump thus left is not removed until the following year, when its death is complete, and when the sap circulating around its base has caused a swelling or collar about it and which will quickly close up when

the dead wood shall have been removed to its level.

M. DEZEIMERIS takes the position that all the wounds produced by pruning, either by cutting close to the old wood, or below the first node, lead to a penetrating mortification or death of the wood, with decomposition of the tissues, which hinders the circulation of the sap. The continued infliction of wounds on the stock has the tendency to constrict the cells and twist the tissues, making the circulation of the sap more difficult with increasing age. In demonstration of this point old stocks have been cut through and examined, and the active tissues found so pressed together, crooked and twisted, owing to internal dead wood, that their proportions were absolutely insufficient for the sap to circulate well and supply the new shoots. On the contrary, when the cut is made at or above the first node (destroying the bud) mortification operates slowly, and without decomposition of the tissues. The wood hardens, but does not perish, and the portion which hardens is as small as possible and is perfectly healthy.

Stocks treated according to the new method for three years, when sawed lengthwise, appear to confirm the truth of the theory, and some old stocks which had ceased to be martyred (according to the expression of M. DEZEIMERIS) but treated in the new way, had found an unlooked for vigor, which clearly manifests itself by the difference in size of the remaining stumps. The shoots of the year, very long, have a diameter double that of last year, which, themselves, are very much larger than those of the year preceding. Further, there is an abundant production of fruit, while on similar neighboring vines still pruned by the old method the production is very small.

What led M. DEZEIMERIS to this method of operating in pruning was the fact that a large number of stocks of Herbemont vines, pruned according to the practice of the country, were beginning to show great enfeeblement, and even perishing. Not knowing what to attribute the difficulty to, he decided to leave some of them unpruned, and these, the year following, attained great vigor. From this he was led to conclude that the trouble was not in the root, but in the

part above ground, and he soon came to ask himself the question if the mode of pruning the French vines is not to a very great extent the cause of their inability to resist the attacks of the phylloxera.

He has preserved in his vineyard about an acre and a quarter of old vines which were dying off, more and more every year, and which had arrived at a state of almost complete non-production, and making but a feeble growth. All the rest have been torn away and replanted with American stocks. He has practiced for three years his new mode of pruning and I am obliged to say that the corner of old vines is actually in a state of extraordinary prosperity. The shoots are of an exceptional length and size, and according to the statement of M. DEZEIMERIS, the production of fruit is as great as it ever was in its time of prosperity; and this is the more remarkable from the fact that the grape crop is not abundant this year in the surrounding country.

THE PARKS.

The subject of parks and park improvements appears at the present time to command more than usual attention. Papers from California, from new Western cities, from older ones North and South, have something to say of their parks, or those who have none are asking for them. There is no question about an interest in this matter which is becoming all the time more general. A recent trip, the last of May, into Maine, with a few stops over, on the route, showed how much people who have the opportunity, are enjoying the privilege of walking among trees, and lawns, and flowering shrubs and plants and pleasant landscapes. At Albany Washington Park at that time was in its glory with its rich abundance of flowering shrubs tastefully placed to show to the best advantage and produce the best effect in connection with its handsome, well grown trees of great variety. The bulb beds were in bloom, and the grass in the best of condition; and a ride through the park and along its pretty lake with its shrub-bordered sides was a delight to be remembered. What contributed greatly to the sense of pleasure was to see others enjoying the lovely scenes, old and young inhaling health and pleasure with the mild spring air. The care of this park is

very excellent and it is a great blessing to the thousands of that city. It is a pleasure to state that a portion of the city which has always been unsightly and is poorly built up is to be taken by the corporation and converted into a park. This tract was formerly a ravine through which at one time was a watercourse; by wrong decision it was more or less filled in and built over, but many objectionable places in it remained with stagnant water to breed stench and disease. The city of Albany is to be congratulated in the step it has now taken to convert this poor piece of its territory into a handsome park.

At Boston the Common was beautiful with the trees in their new spring dress and the bright verdure of the lawn. There seemed to be no restriction to children playing on the grass. The garden was bright with its beautiful beds of flowers which are so carefully maintained. The rhododendrons were very fine. We found gardeners removing the tulip plants to replace them with other plants in bloom waiting to be put in. Most of the beds were bright with flowers of plants that had recently been set in them. Our next stopping-place and the end of the journey was Fairfield, Maine, about twenty miles north of Augusta. This we found a pretty and neat village of some 2000 inhabitants. The residences were mostly surrounded with grounds well kept in grass with trees, shrubs and flower beds, and rows of trees lined the streets. A pretty square of two or three acres containing a soldiers' monument we found to be regarded with much interest. It contains some trees, and there is an intention to do what can be done in various ways to beautify it. In many respects this pretty village is one of the most enterprising in the country. On the return trip we had the pleasure of seeing the park at Worcester, Massachusetts. It had masses of rhododendrons which were surprising in health and beauty and profusion of bloom. This feature was a grand sight. The place has a pretty pond, and we noticed that the citizens patronized it freely, children especially strolling everywhere. This park has a wealth of trees and flowering shrubs, but their arrangement is apparently without method, and they are very much crowded. The effect is not pleasing. At that time

the grass was uncut and about two feet high, and we judge the present management is not quite what it should be. Notwithstanding it is a pleasant retreat for the citizens. The residences and grounds of Worcester are many of them very handsome.

CHRYSANTHEMUMS IN JULY.

Plants growing out of doors in the open ground without pots must have plenty of water, and the surface not allowed to become hard and baked. A working with a rake, or pronged hoe, will prevent this if repeated every week. In a very dry time a mulch of manure will prevent them from drying out so rapidly. The July bud will now be appearing on most varieties on the points of the strongest and earliest shoots, and must be carefully removed at once. Two or three shoots will appear from below, and the terminal bud on each one of these shoots will produce fine blooms. All plants should be put into the pots in which they are to bloom this month, and the tying, watering, syringing and looking after the insects all closely attended to. Specimen plants should be set a suitable distance apart, and plunged about two-thirds the depth of the pots into coal ashes or other material that will prevent the influence of the sun from reaching them and drying them out. Plants which are to bloom in November should not be stopped after this month; such varieties as *Grandiflorum* should not be stopped after the first of the month. Syringe the plants occasionally with quassia water. Do not pot and stop the plants at the same time, as each repotting at once sets the roots into active growth, and the growth of the top is checked for a time. Wait until you see signs of renewed growth, after repotting, before you begin to stop. Cuttings can be rooted this month, but do not root as readily as in spring. Young plants started now make pretty objects for the pit or conservatory late in November and will bloom freely in four-inch pots.—*Chrysanthemum Culture for America*.

SOME BEAUTIFUL SHRUBS.

With the exception of the rhododendron there is no hardy shrub in my collection, not very extensive to be sure, that has elicited so much praise as the cut-leaved

sumach, a variety of *Rhus glabra* with deeply cut leaves. It is as handsome as a tree fern with its large, rich green, finely divided foliage.

Exochorda grandiflora. This is a hardy plant from Japan, but it is not as yet very extensively cultivated, though the fact that one firm sent out 25,000 plants last year shows that there is an increasing demand for this beautiful hardy shrub. The name, *Exochorda*, has reference to the cords by which the fruit is suspended. This shrub grows to a height of ten feet and about the same in breadth. The flowers are pure white, borne in racemes, and have a delicate fragrance. The foliage is also very attractive.

MRS. M. D. WELLCOME.

SOWING GOOD SEED.

In your publication you speak of *one* lover of flowers in a neighborhood leading others to become fond of them, or something to that effect. As an illustration: When we moved out of the city to this suburb I wanted some flower seeds, so thought I'd ask some of my neighbors to send with me. I called at one house and asked the lady if she would not like some flowers. She replied: "I cannot bother with flowers though I like to see them well enough." The gentleman said "They are all weeds just alike, I can't see any difference." She sent for two or three kinds, and I gave her others and some plants, and she had a bit of a garden. That was four or five years ago. This year these persons are both greatly interested in flowers, the gentleman buying them and working early and late to keep his grounds looking well. His business is in the city where he spends the day. So you see how the little seed has grown and spread.

MRS. F. B. D., *Worcester, Mass.*

JAMAICA EXPOSITION.

Mr. WILLIAM SPECK, of Kingston, Jamaica, has supplied us with some of the newspaper accounts of the horticultural exhibition made on the 10th of March, in connection with the Jamaica Exposition. Evidently the show was a very successful one and contained many interesting and beautiful plants. Some of the plants specially named were tree ferns, palms, crotons, celosias, caladiums, arums, philo-

dendrons, bananas, panax, and Bermuda lilies. Among ferns specially noted were *Gymnogramma schizophylla* and a specimen of the Elephant's Ear fern, and a species of *Vittaria*, a grass-like fern indigenous to the Island.

RENEWING VINES—PRUNING.

Will you kindly answer the following questions on the summer pruning or pinching of the grape?

1st. Where the vines have become too large and woody through neglect is it advisable to allow new shoots to grow from the roots, or low on the vines, and afterwards to cut down the old vines?

2nd. In summer trimming or pinching of vines should all new shoots *not* bearing fruit be allowed to grow? If not, what portion should be removed and in what manner? A SUBSCRIBER.

It is quite proper to renew old vines by a shoot from the base or lower part of the old stock. Having reared a good cane from a point low down on the stock cut away all of the old vine down to the new cane, and henceforth this new growth will form the standard or upright portion of the stock.

The second question is comprehensive, and difficult to answer in a few words. The vine-grower is expected to acquire by experience a knowledge of the capacity of his vines. Vines in good health, and fruiting well, usually push out many shoots more than is best for them to grow. How many of these non-fruiting shoots may remain depends on the strength of the stock, and the comparative amount of fruit it is carrying. With a small load of fruit there is often danger that the new wood for the next season may grow too coarse, strong and spongy. A number of shoots greater than usual would then tend to check excessive growth in the individual shoots. As a rule, as soon as the new growth shows what canes are best to be retained for fruit, all others are removed; but in so doing an eye is kept out for the following season, and a cane situated where it will be wanted the next year is preserved although it is not a fruiting cane. Unless wanted for renewal new shoots from the base of the stock should be removed, and, also, the useless suckers.

A NEW GRAPE PEST.

According to the *Allegan Gazette*, an enemy to the grape, formerly unknown, has made its appearance in Michigan. The very warm and dry weather of the present season will be apt to favor the

advent and increase of various, new, injurious insects. The following is the *Gazette's* account of the new pest:

From the Grand Rapids fruit district comes the report of a very destructive insect which is destroying the crop prospect for the year if not, indeed, exterminating the vines. In appearance the animal which is making the injury is a green worm about one half inch in length, of a bright green color, very active, and thinly covered with white hairs. It is an industrious forager and preys solely upon the leaves of the vine. It seems to possess the instinct of preservation, for it secretes itself in a web attached to the under side of the leaf near where the stem joins on to the trunk of the vine. Here it throws out a saliva, gummy in character, that draws the leaf up into a neat and compact shell, impervious alike to water or dust. It is a nameless pest, at present, for there is no scientist in the locality able to name it, nor to state to what family of insects it belongs. But one specimen, a well developed gnat, a half inch in length was shown. It is believed to be one of the myriad forms of the grape leaf folder. These fasten themselves to the leaf of the grape with silken threads in much the same manner as the specimen shown. The larvæ is described as being bottle-green. At one stage it acquires a flesh tint, just before becoming a chrysalis. The chrysalis becomes a fly after eight days. It issues forth resplendent in white, black, and gold, and flies away on oval-shaped pinions, leaving behind millions of eggs from which other butterflies will be evolved, after feeding upon the leaves of the vine. The worm is largely confined to Illinois, Indiana and Ohio, but, by its presence in Michigan vineyards, seems to have extended its scope of operations. It eats the leaves with surprising rapidity and will destroy a whole vineyard in a very short time.

White hellebore mixed with plaster and applied dry, will check its ravages, but to exterminate it the leaves must be cut from the vines and burned or otherwise destroyed.

VARIOUS QUESTIONS.

A correspondent of the *MAGAZINE* lately spoke of using superphosphate of lime for gladiolus bulbs. Will you please tell me how to use it? Is there any danger of using too much?

Is there any way of ridding a garden of a gray, ribbed, oval-shaped insect that children call sow bugs?

What is the best season to buy *Amaryllis Valotta purpurea*, also the *Johnsoni*? E. S.

If commercial phosphate or plain superphosphate it can be employed at the rate of four to six pounds to the square rod, sowing it broadcast and raking it in before planting the bulbs—or, if applied afterwards, draw a drill between the rows and sow it and then cover the soil over it.

Sow bugs we suppose can best be destroyed by trapping them under boards and stones. Perhaps some who have had experience will tell the best course to take.

The *amaryllis* bulbs inquired about can be procured either in the fall or spring.

PEANUTS—CLEMATIS COCCINEA.

Peanuts are planted about the same time as corn and the same distance apart one way and in hills about eighteen inches apart, allowing one or two peas to the hill; they are cultivated the same as corn, except of course when raised on a small scale, then they are not planted quite so wide apart and are hand hoed; a field of peanuts or goobers, looks very much like a clover field. *Apropos*, a good story is told of some Georgia soldiers who during the war, while in Virginia, nearly dug up a clover field in search of goobers before they discovered their mistake. I have never seen a clover field in Georgia, though there may be in some portions of the State. I was visiting a lady not long since and she was telling me of a beautiful plant that had come up in her yard and led me out to see it, when, lo, it was a bunch of clover.

I wish ADA MARIE PECK could see my *Clematis coccinea*, it is just loaded with bloom, and is my pride, and the admiration of all that see it; mine is trained on a trellis, and the delicate vine almost covers it, and would be beautiful even if it had no bloom.

MRS. J. V. R., *Columbus, Ga.*

JULY NOTES.

Stir the soil in dry weather, continue to plant sweet corn for succession, plant cucumbers for pickling. Early varieties of potatoes can yet be planted and matured. Sow turnip seed on rich well prepared soil. Layer strawberries in pots for early planting. Select a piece of nice soil and sow seeds of herbaceous perennial flowering plants, shade and water. Strike cuttings in the open border of house plants and many kinds of flowering shrubs.

GOOSEBERRY MILDEW.

The experiment station at Geneva, N. Y., has been using sulphide of potash to destroy gooseberry mildew, and in a late circular it announces that the fungus has been successfully combatted the last three years. The practice has been to spray the plants as soon as the young leaves unfold and to repeat the sprayings at intervals of eighteen to twenty days. The sulphide is used at the rate of one half ounce to a gallon of water.

HONEY BEARING SHRUBS.

Clethra Alnifolia is at the head of honey producing shrubs. Among trees, *Virgilia lutea* is preeminent. The locust and the linden are both good. Wild cherry is quite productive, but makes inferior honey. *Catalpa* is liked by bees, but General BRISBIN says the honey is poisonous.

J. E. CARVER.

MY GRANDMOTHER'S GARDEN.

'Tis truly a wonderful garden,
The garden my grandmother tends,
Although, it may be that a critic,
In censure some moments might spend.
The beds are not all precise angles,
Or of true mathematical shape;
Rough, stake-driven boards form some borders,
And some beds all borders escape.
The hyacinths grow by the onions,
The lettuce-bed thrives side by side
With sweet peas and pansies in bloom,
And rhubarb just distant a stride.
A skill of unusual nature
The aged and wrinkled hands own,
Which makes all they touch thrive and blossom,
Just how, it can never be known.
There bloom for her fragrant exotics,
Gay poppies and "four-o'clocks," too;
Her beets and tomatoes and cabbage,
'Tis surely a pleasure to view.
A garden of use and of beauty,
It seems like a long, happy life,
All checkered with sunshine and shadow,
Yet free from the turmoil of strife.
The gay flowers are seasons of pleasure;
The sweet ones are actions of love;
The vegetables are the duties,
That pleasant, though homely, may prove.
The weeds must, like sins, be uprooted;
The vines must be lifted and trained,
Like thoughts of the heart to be cultured,
And passions that must be restrained.
The wind, like adversity's tempest,
May shatter the blossoms of cheer,
And insects, like trials abundant,
Will prey on the flowers year by year.
And yet, while the garden is tended
And cultured and weeded with care,
The pleasures will bloom by the duties,
And o'er them shed sweets in the air.

BLANCHE HEDGES.

JULY.

Behold, what radiant form is this who stands
Stately and fair with poppies in her hands,
With clustering ivy leaves upon her head,
And that sweet smile upon her ripe lips red?
'Tis bright July whom we have waited long,
All through the May's rich ecstasy of song,
All through the rose-time of the lovely June
When all the earth sang its most joyous tune.
Welcome July! bright maid of summer-time
Rich, glowing, warm, what splendors like to thine!
Luxuriant in thy wealth of golden days,
My heart with loving voice shall sing thy praise.

HARRIET FRANCENE CROCKER

OUR YOUNG PEOPLE.

THE HAUNTED HOUSE.

When Harry Blake read the repeated notices of a grand Fourth-of-July celebration that was to come off in the town on that date, then near at hand, he was disgusted.

This crippled youth of nineteen years, with noble head and handsome face, who had never walked a step and knew he never should, had done a deal of thinking that might do credit to maturer years. Whether right or wrong on this occasion we shall not judge. He is telling his friends, Frank and Tom, that it's high time for such old-fashioned demonstrations of powder and processions to subside; that the one great centennial celebration of 1876 was a fitting culmination and conclusion of all that sort of thing; that Washington is sure to be forever exalted in history; that another war has left us two other heroes and more anniversaries; and that the G. A. R's and S. of V's, with their fervid loyalty and military encampments, are everywhere; and no one will be allowed to forget what is due to the freedom secured under the flag, even if the national anniversary were hereafter considered as a social holiday, divested of gunpowder and bluster.

"As for myself," he continued, "I'm tired just now of everything that usually interests me, am sick for a sight of Gem Lake where we were two years ago. Last night I dreamed I was there. Such crystal waters as I saw—such emerald turf and tree-tops, such sapphire skies, never existed outside of dreams. I tell you, boys," Harry goes on, "when a fellow has never walked a single step and knows he never can, he's not likely to go out much to be stared at, even though the finest of turnouts be provided for his use. Now if you two will promise to go with me again to Gem Lake I shall be perfectly happy."

The boys, taken by surprise, hesitate to answer. They instantly recall Mr. Blake's bountiful way of insisting that he should provide everything himself on that occasion, in return for the happiness they gave

his son. This now embarrasses them. So Harry goes on:

"Now, there's Scipio—he's promised himself great fun on the 'Fourth;' but I want to get away from all that; so I shall buy him off—promise him a taste of the 'Fourth' at the lake, and give him money to get fishing tackle and let him have a chance to fish. But you boys are not so easily bought off and I don't know how to manage it. I know it's a good deal to expect you to—"

"Hold on, Harry," exclaims Frank; "Yes, stop," chimes in Tom, "we've always received more pleasure from you and your father than we've been able to give—it's not that."

"We'll talk it over," says Frank, "and let you know." Then Harry adds: "Perhaps your Cousins Purdy and Vance would join us again. Even my father remembered them and suggested this; for you may as well know that we have talked it over, and all preliminaries are arranged,—the day, only, is yet to be named on which we start;" and he smiles at the boys' seeming surprise.

We next find our trio of boys comfortably settled at their fishing headquarters. Harry is ecstatically happy; Tom and Frank in rollicking spirits—quiet, only, when quiet is enforced at the dry end of a fishing rod as their only hope of luck at the other; while Scipio's heels and ivories proclaim him jubilant. When chance favors, he pauses long enough to furtively fondle the precious package containing his "feeshin' tackle," and is overheard chuckling to himself that he'd "ruddah cotch one feesh dan go to Hebben."

On the second day, Purdy and Vance joined them with a whoop and hurra that sent a thrill of delight through the little camp. They exclaimed at seeing but one tent, regretting not having brought their own, until reminded of the hail and rain storm that had driven them to the "haunted house" during their previous stay, and were told that this experience had decided

them to take possession of the comfortable house at once.

"Think of having closets to hang up your toggery in," said Harry, "to say nothing of the fire-places for a rainy day. We have our camp tables and chairs in there, and Scip has a regular cook-room now, where the hoppers and swing worms can't get into his soup."

"Nairy hoppahs nor wo'ms gits into my soup *nohow*," said Scipio, indignantly. "All the trouble I has is to git 'nough cooked for sich oudacious appetites as yo'ens all got;" and he glanced ruefully at the new-comers.

"O, yes, I remember," said Purdy, "you thought we gorged ourselves on purpose to get empty cans for our water plants. This time we've both been charged with various commissions in that line—have been reminded that boggy land is sure to be prolific of interesting growths. But, here, Scip, I saved my Hail Columbia money for you; and I heard Vance say that he'd done the same;" and the two boys slipped something into a dark, honest hand that made eyes and ivories gleam again; and no more of Scip's harmless growls about appetites were heard thereafter.

At bed-time Harry said the doors of their rooms should be closed to shut out the sonorous sounds from sleepers of the night before. Tom and Frank each disclaimed the habit, and charged the other with having done the snoring, the while they tossed up their pallets and straightened them out again, man-fashion. They were in the "parlor" of the mansion, their cousins in the "sitting-room" across the hall from them, Harry's hammock was swung in the "dining-room," and Scip had taken possession of the "bed-room" adjoining; this on condition that the door between should be left open.

"Fo' I'se suttin, suah," he said, "dis house ain' got its bad name fo' nuffin'. I'se mighty spicious dis house."

"You made the rest of us suspicious when we were here before," said Purdy. "The results of your water-can explosion can still be seen in mosaic all over the kitchen walls." (See Vol. '89, p. 263.)

"I'se awful sleepy, Mastah Pu'dy; do' know w'at yo' sayin'."

After this all was silent until about midnight, when Harry was awakened by the

click of the parlor door latch, and could see the door, in the dim lamp-light, slowly swinging open on its creaking hinges without the aid of hands. The rusty creaking aroused both Frank and Tom, who tiptoed to Harry's side, inquiring in whispers what had opened the door. "A draught of air, I suppose," he answered. "I'm glad you have not wakened the others. Please close it again, and latch it carefully."

Again all was silent, and Harry had fallen asleep, when a louder click than before aroused him, and through the opening door he saw Frank and Tom sitting up in bed, and whispered to them to let the door stay open and go to sleep—that it was nothing. But at that moment the door into the kitchen rattled and then went creaking open, as the other had done.

Nothing else occurred to disturb them, and the morning was so full of plans for the day that no thought was given to the fractious doors. Some hours were first spent in angling, then a trip to Big Marsh was made, and an earnest search began for choice plants. Among those marked for removal at the proper time were, first, two kinds of orchids, one a "swamp orchis"—a tall lady's slipper, the other *Spiranthes cernua*, very fragrant, with white waxen spirals, called "Ladies' Tresses." Here, too, they found a white drooping lily, that Harry said was a relative of "Adder's tongue," the *Erythronium*. Also they discovered the *Atamasco* lily, a variety of the *amaryllis*, with its delicate pink coloring and grass-like foliage. All around the sedgy edges grew the "grass of Parnassus," with its lovely heads; while within a narrow circuit of dryer ground they found Cardinal flowers, Indian pinks, Columbines, *Dicentra cucullaria*—"White Ear-drop," and *D. eximia*—another variety just in bloom. But this was not all; there were blue hare bells, white violets—constant bloomers, Solomon's Seal, Indian Turnip, clematis, blue bells, and great clumps of Climbing Bitter-sweet, all of which, and more, were to be secured and taken home.

Harry's aquarium was not forgotten by any means, for were they not indebted to him for the pleasure of this outing? Many new prizes were found of water-plants, and a specimen each was secured of a

tiny mud-turtle, a tortoise, and a "leather back." A huge "water horse," also, was carried off as something rare and precious, and many curious things besides, that to them were nameless, until even Harry cried enough.

Upon returning to headquarters Scipio left Harry in his wheeled sedan where the others were lounging and reading, while he hustled up their supper after the manner of the born cook that he was.

That night Harry was very tired, and signified at bed-time that the two active doors be left open, hoping thus to secure undisturbed sleep. But no; about the usual time the boys in both rooms reported that the hall doors, and the sitting room door into the kitchen, had all opened with a snap and creaked wierdly, as before. Harry had heard them, but hoped that sounder sleep had blessed the others with duller hearing. "Never mind," said he to the nervous boys, "two other doors opened last night and we were all alive this morning. Let's quiet down again and get some more good sleep." So once more, the domicil was quiet,—quiet until three o'clock, when it seemed that the heavens and earth, and all that in them is, had combined in one universal concussion. The house swayed, the windows rattled, and, whatever the cause, to be roused thus from sound sleep was perfectly terrific. Purdy and Vance landed at Harry's side in undisguised fright. Scip groaned and yelled amid his exclamations of "De Lawd knows I didn't do it dis time."

"Boys," said Harry, drawing his watch from under his pillow, "I think Frank and Tom must be outside; look in their room." Sure enough, they were gone.

"Now, Scip, you ebony howler, shut up that hullabaloo," commanded Harry. "Every bit of this commotion is gotten up for you. This is your Fourth of July celebration. Didn't I promise you this? But I must confess," turning to the boys, "that after commissioning Frank and Tom with the business I had not thought of it since; and they've managed to give us all a good scare."

Then Scip spoke: "I thought, honest, Mastah Harry, 'twas Gabe an' his trump; I did, fo' suah."

By this time Purdy and Vance had tumbled into their clothes and had rush-

ed out to pummel the other boys for not having taken them into their secret. But other entertainment was soon provided by hurrying stragglers from a gypsy camp, and later by mounted villagers, who expected to find no vestige left of the haunted house. Of these the boys learned a wierd tale of the man, a scientist, who built the house for his own residence, whose wife suddenly died, and who, in six months, married the young step-daughter, who was a child when her mother had married him. No hired help would stay in the house after that; strange stories of foul play got afloat; the man deserted the property; other families had tried to live there, all driven away by something uncanny, etc., etc.

During breakfast the party discussed the situation and decided that nothing short of veritable apparitions should disturb them in their cozy surroundings, and in those no one believed, so all was serene. The day was spent in fishing, reading and napping. Scipio was encouraged to try his luck, for, eager as he was to do it, he had hesitated lest his failures might be made a jest, poor fellow. But his very first catch was a whopper, the joy over which proved almost too much for his sanity, quite too much for the gravity of those who witnessed his gyrations while detaching the flopping shiner.

When bed-time came the doors were each carefully examined and found to be all right, latching so firmly when closed that they could not be pulled open without turning the knobs. That was convincing, and so Harry directed that they should all be left closed in the same careful way, adding: "And you'll find we shall have no tomfoolery here to-night, for there is not even a breeze astir."

But Harry's say-so did not control the mysterious agent flitting from room to room, opening doors as it went. Before midnight, this time, five doors were standing wide open, including the outside kitchen door. They had clicked and creaked as usual, making the boys' flesh creep, despite themselves.

"See," said Vance to Purdy, as they got up and investigated, "this big closet door and the one next to it have always remained closed; Scip's door into Harry's room is never shut. The other doors, opening as they do, make a complete cir-

cuit through the rooms for the ghost-walkers without these two ever being opened, don't you see? These close and latch just like the others, but they don't happen to be needed for the nightly promenade, you understand. On this occasion they seem to have passed in and out through the outer door of the kitchen."

"Anything more on the subject?" queried Harry; "if not, you may go to bed and dream out the rest." The boys obeyed, but how much or how little they slept will never be known, for they were not cowards, not they, and not in the least superstitious.

The next day a venerable ex-professor of a western college, visiting the haunts of his boyhood, called on our party and introduced himself. He was full of leisurely chat, and so the boys told him of their night experiences. "Ah, yes," said he, "I understand. When I was a boy this whole section was swampy, more or less. Where that house stands the boggy soil at times would rise and fall as though the lake water ran under it. Doubtless it did, and does still. A lot of us boys used to teeter on it by standing on opposite sides. And sometimes we'd watch the bubbles of gas rise and break over the wettest parts,—gas from the decayed mass of vegetable matter below. An ac-

cumulation of such gas might produce a slight heaving of the earth—the house; and the very slightest wrenching of the door-frames would set the doors free. But it is more likely to be caused by an under ebb and flow to and from the lake."

Then the floor-sleepers declared they had each felt a movement at different times, as though the feet were being slightly raised; or again, it would seem that the head was being elevated. But each one was ashamed to mention it, feeling himself that it must be fancy. Harry's position in the hammock would naturally make him attribute all motion to his movements, so he explained. "But why," he inquired, "were those two doors never affected? They fasten no more firmly than the others."

"Those two doors," replied the Professor, "are nearly central; they were the center of motion, so to speak, and therefore but slightly affected. The very fact of their remaining closed proves my theory."

Before the genial man's interesting call ended he had learned of Harry's scientific proclivities, and promised to visit him in his home.

And now, with the ending of the haunted house mystery, must end my story.

MARIA BARRETT BUTLER.

THE JOLLY YOUNG FELLOW NEXT DOOR.

Oh, the jolly young fellow next door,
Who whistles as fine as a bird,
Has often to me given comfort, though we
To each other have ne'er spoke a word.
Yes, many a time when my heart
With care has been troubled and sore,
It has grown calm and still, as I caught the sweet trill
Of the jolly young fellow next door.

Oh, the jolly young fellow next door,
When he cheerily works 'mong his flowers,
They greet him 'tis true, I'm quite sure that they do,
As they welcome the sun and the showers.
For he is so bright in himself,
And his music so careless and free,
That he always brings, to all out-of-door things,
A comradeship pleasant to see.

And, sometimes, when night broods o'er earth.
And there's never a star in the sky,
His whistling I hear, loud, tuneful and clear,
As, undaunted by gloom, he goes by.
And I heartily wish that this world
Could be blessed with a multitude more
As blithe and as gay as he is every day,
The jolly young fellow next door.

MARGARET EYTINGE.

THE PRINCESS IN THE PANSY.

[It is a childish fancy that there is a little woman in the center of the pansy. When the petals are pulled off the arrangement of the pistil and stamens looks quite like one.]

Have you followed the butterfly rover
To the Princess of Elf-land's bower?

Close hidden it lies
From curious eyes.

In the heart of the Pansy flower.

'Tis shaded by velvet curtains.
That hang without loops or fold,
Of the royal hues

That a king might choose,
White and purple and gold.

Behind them the Princess of Elf-land,
Daintily fashioned and gowned,

Is sitting alone
On an emerald throne,

In a silence unbroken, profound.

And there she remains unattended,
(For her courtiers seem ever delayed),

In the fragrant gloom
Of her draperied room,

Till her curtains grow wrinkled and fade.

ANNA M. PRATT.

EDITOR'S MISCELLANY.

THE NEW POTATO CULTURE.

The editor of the *Rural New Yorker*, E. S. Carman, who, it is well known, has for several years made personal trials, and secured prize competitive trials, of raising potatoes to secure large yields, and especially by a method called the "Trench method," has lately brought together and issued in book form under the above title the substance of what has appeared from time to time on this subject in his paper. It forms an important contribution to agricultural literature. The most convincing evidence of the new method is that given in chapter V, which contains the accounts of the prize crops of the Women's National Potato Contest in 1888. The crops were raised on plots of ground measuring one-fortieth, or one-twentieth of an acre, and yielded at different rates to the acre from 810 bushels to 1061 $\frac{3}{4}$ bushels. The same year Charles B. Coy, of Presque Isle, Maine, raised 738 bushels on a fraction less than an acre of land.

The book contains valuable information on nearly all points relating to potato growing, and all those practically interested in this subject should carefully read and consider its contents. It is the best mental equipment for the farmer for successful potato growing. The New Potato Culture can be had of the Rural Publishing Company, New York, or through any bookseller.

THE COLUMBIAN CYCLOPEDIA.

Steady progress is being made in the issue of this valuable work, and the prospect is that it will be completed the present year. The last volume received shows its extension partly through the letter P, or the 24th volume of the 32 which is to constitute the whole number. When completed it will form a comprehensive library of exact information, and at the same time a valuable defining and pronouncing dictionary of the English language. Free specimen pages of the *Columbian* may be had by addressing The *Columbian Publishing Co.*, 393 Pearl street, New York, 242 Wabash Avenue, Chicago, Illinois.

CHRYSANTHEMUM CULTURE FOR AMERICA.

The author of this book is James Morton, author of "Southern Floriculture." It forms one of the handbooks of the "Rural Library Series," published by the Rural Publishing Company, New York.

The instructions appear to be well expressed and of the right character for practical application by the learner in this branch of plant culture. All who raise chrysanthemums should learn to raise good plants, and in this little book one will find just the required information on all points. A chapter on the treatment of the plants in their different stages of growth, every month in the year, is of special value, and as a specimen of the work an extract is made of the treatment given for the month of July, which will be found elsewhere in our pages of this month.

A NEW USE FOR GRAPES.

It is a pleasure to notice the extension of the use of the grape in any proper way. The employment of grapes as the base of a preparation of catsup is comparatively new. Such an industry has lately sprung up in our midst and promises to become permanent. We see no reason why it should not, nor, judging from the actual use of a specimen of the preparation, why it should not enter largely into commerce and find a wide sale. An advertisement elsewhere shows

where it can be procured. It is probable that grapes will yet be used in many new ways, thus increasing the channels of distribution of the product of our vineyards.

MEEHAN'S MONTHLY.

The well known horticulturist and writer, Thomas Meehan, who for many years edited the *Gardeners' Monthly*, commences with July as editor of a new monthly publication "devoted to general gardening and wild flowers." It is issued by "Publishers *Meehan's Monthly*," Germantown, Pa., at \$2 a year. The first issue contains sixteen pages, and a good colored plate of *Rhododendron Maximum*. A descriptive article on this *Rhododendron* is particularly interesting and has the peculiar charm which characterises all Mr. Meehan's writing about plants and flowers. Another chapter in the same vein is entitled "Wild Flowers and Nature." A very fine photo-lithographic portrait of Dr. Joseph Leidy is given, with a brief account of the labors of this distinguished scientist and citizen of Philadelphia, who died on the 30th of April last. It is unnecessary to say that Mr. Meehan is, in himself, fully equipped to make a most interesting horticultural journal, as years of labor in this particular line have already proved, and it is hoped, both for the progress of horticulture in this country and for the welfare of its enterprising editor, that this undertaking may be successful financially as we know it will editorially.

AMERICAN NURSERYMEN.

The Annual Convention of the American Association of Nurserymen, which was held in Minneapolis on the 3d of June, was apparently both pleasant and profitable. The officers elected for the ensuing year are, President, J. VanLindley, Pomona, N. C.; Vice-President, W. J. Peters, Troy, Ohio; Secretary, Charles A. Green, Rochester, N. Y.; Treasurer, A. R. Whitney, Franklin Grove, Illinois; Executive Committee, W. C. Barry, W. J. Herkes, G. J. Carpenter. Among other resolutions, the following, in reference to the *Columbian Exhibition*, were passed:

Whereas, we believe the classification adopted for the World's *Columbian Exposition* relative to horticultural subjects is faulty and unjust to the horticulturists of the country, and if allowed to stand will tend to hinder the success of that department of the exposition; therefore

Resolved, That we, the American Nurserymen's Association, representing every State in the Union, do most earnestly protest against such classification and ask that the same be changed to conform with the acknowledged reasonable classification accepted by the horticulturists of the world without fixing the various classes under which exhibits might be made. We suggest the following grouping as satisfactory to the nurserymen, fruit-growers and florists of this association:

Department B, horticulture, Group 1. Pomology, including all fruits on exhibition. Group 2. Floriculture, including flowers, flowering plants, shrubs, cut flowers, etc. Group 3. Arboriculture, nurseries and their products. Group 4. Kitchen and market gardening and their products. Group 5. Horticultural appliances, methods and tools. Group 6. Seeds used by nurserymen, florists and gardeners.

Resolved, That we most earnestly protest against the appointment of Walter S. Maxwell, of California, as chief of the division of horticulture of the World's *Columbian Exposition*. Believing as we do that there should be a man at the head of the great work who, by taste, knowledge, experience and acquaintance, is in full sympathy with every horticultural interest of this great country.

THE FOURTH OF JULY

Unites the veterans, both North and South. Of one blood, American citizens may well, on this occasion, clasp hands and fraternally congratulate each other, especially if that blood has been thoroughly purified with



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"I was cured of long-standing catarrh by the use of Ayer's Sarsaparilla." — JAMES J. DOUGHER, Comp. G, 13th Infantry, Fort Wingate, N. M.

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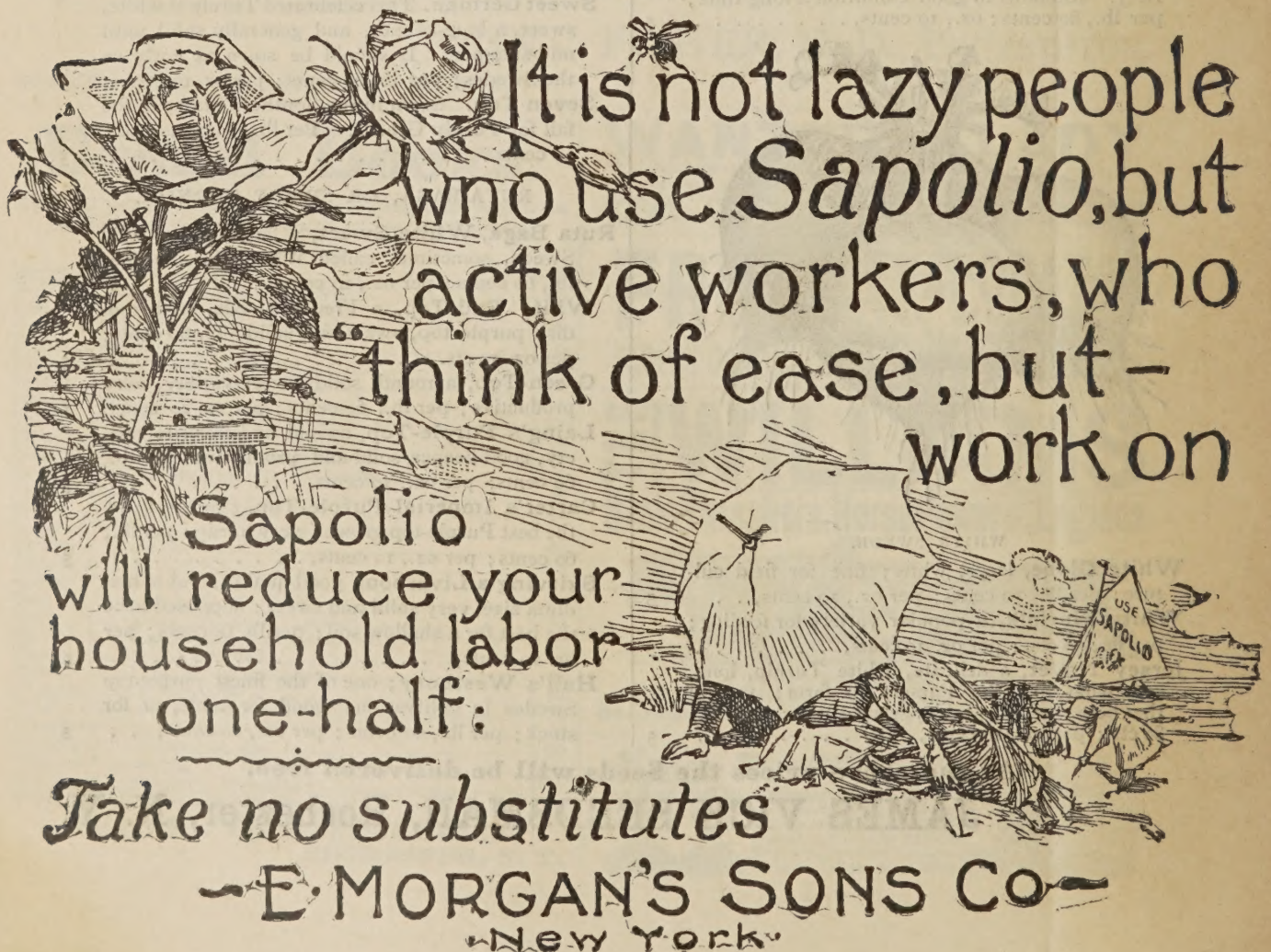
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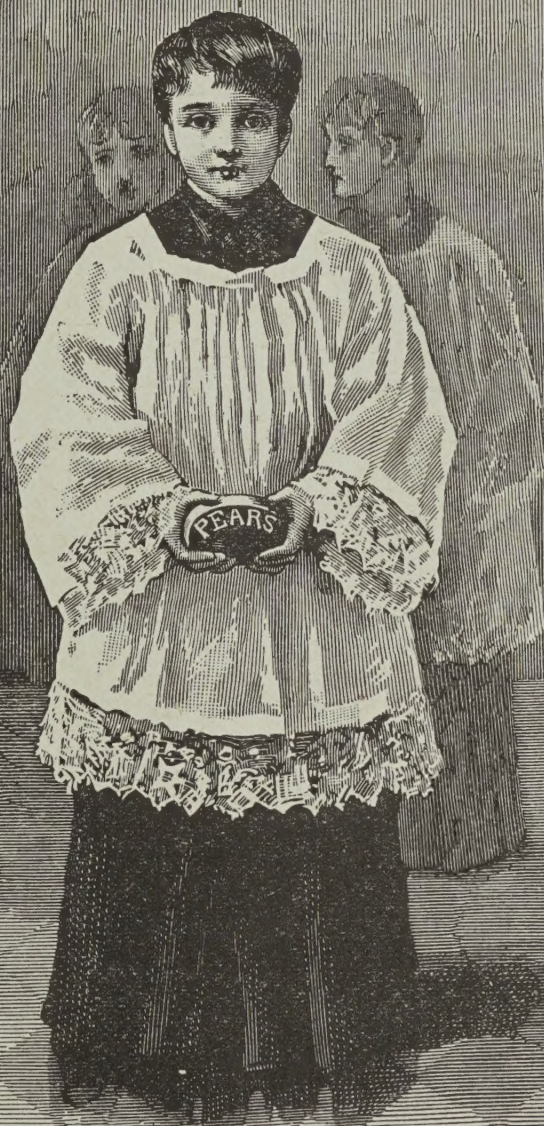
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